AN

INTRODUCTION

TO THE

THEORY AND PRACTICE

OF

SURGERY.

VOL. I.

AN INTRODUCTION TO THE THEORY AND PRACTICE OF SURGERY,

BY

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VOL. I.

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MVSEVM
BRITAN
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ADVERTISEMENT.

SURGERY has received ſo many improvements ſince the celebrated Heiſter, in 1718, publiſhed his Syſtem, that its practice is almoſt entirely changed. Thoſe various improvements and inventions have, for the moſt part, been given by authors, from time to time, in detached pieces; which lays the ſtudent under the neceſſity of having recourſe to a multiplicity of books, often not eaſy to be procured, in order to be informed of the progreſs of his profeſſion.

To aſſemble in one work all thoſe various and intereſting improvements, is the object of the preſent undertaking; the firſt volume of which is preſented to the public, with all the diffidence that a conſciouſneſs

conſciouſneſs of the importance of the ſubject muſt naturally create.

The author hopes the arrangement he has adopted, although new, will meet the approbation of thoſe who deign to look over it; as he preſumes the adding of practical remarks, caſes, and diſſections, will more immediately tend to illuſtrate the theory of Surgery, without interrupting the regular ſeries of the work.

Should his endeavours be deemed of any utility to the younger part of the profeſſion, for whoſe uſe they are chiefly intended, he purpoſes, by ſucceſſively giving the ſurgical diſeaſes of the head, trunk, and extremities, to accompliſh the whole of his deſign.

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PREFACE.

TO exhibit a view of the progreſs of Surgery, from the remoter periods of medical hiſtory to the preſent century, will not, I preſume, be deemed uſeleſs or unintereſting to the young ſtudent; as, at the ſame time that it preſents objects highly worthy of his curioſity, it points out to his imitation thoſe juſtly celebrated men, who have contributed to the advancement of this ſcience.

If we attend to the learned Le Clerc*, whoſe critical reſearches into

* Vide Le Clerc. Hiſtoire de la Medecine.

the antiquity of medicine, and its gradual progreſs, from the earlier ages down to the ſixteenth century, form a work which will ever inſure him a reſpectable rank, both as an hiſtorian and phyſician, we ſhall find the hiſtory of phyſic, antecedent to the Hippocratic æra, a mere compound of fable and empyriciſm.

Hippocrates, the common parent of Phyſic and Surgery, found the practice of thoſe profeſſions centered chiefly in the ſtrolling philoſophers of thoſe days *, whoſe ill-directed inquiries, vain philoſophy, and idle theories, were by no means calculated either to extend or cultivate the knowledge of phyſic. He, therefore,

* Bordeu, Recherches ſur quelques Points de l'Hiſtoire de la Medecine.

with

with a ſagacity peculiar to himſelf, drew a line between thoſe profeſſions, which made philoſophy but a part of a phyſician's education. He collected from the medical regiſters, that were generally exhibited in the temples, all the obſervations on the various diſeaſes, that either chance or experiment brought to light. Theſe, with what his own extenſive practice furniſhed, in the courſe of a long life, dedicated to the moſt noble purſuits, afforded him ample materials for compoſing a ſyſtem of phyſic, which, as handed down to us, is at once a ſtriking monument of diſcernment, penetration, and induſtry.

From this illuſtrious era, down to Areteus, Celſus, and Galen, time has nearly obliterated all medical

tranſactions; nor can we, with any degree of certainty, preſume how far the works of Hippocrates contributed to improve the practice of his immediate ſucceſſors, as their circulation, for many obvious reaſons, muſt have been very circumſcribed, and could not well extend, for ſome time, beyond the limits of the Grecian iſlands.

It will be here neceſſary to return and take a view of Surgery, as a diſtinct ſcience, and ſee in what light it is probable to imagine it was looked upon in thoſe early times; by which we may be enabled to develope the reaſon, why the cultivation of this ſcience did not excite that degree of attention the evident utility of its practice ought juſtly to have claimed; eſpecially in rude and barbarous

barous times, when ſavage ferocity made even life itſelf to be frequently held on a very precarious tenure.

In this early, and more uncivilized ſtate of ſociety, the conſtant neceſſity mankind were under of ſeeking relief, from the variety of accidents to which they were daily expoſed, has induced the greater number of medical authors to coincide, in ſuppoſing ſurgery to have been by far the earlier part of Phyſic. To this opinion it may be objected, with much reaſon, that the knowlege requiſite to render this ſcience any way uſeful, was not even thought of in thoſe early ages, nor until long after Phyſic became a profeſſion, and had made ſome progreſs; beſides, the danger, apparent cruelty, and uncertainty, in

adminiſtering thoſe helps in ſurgical caſes, would naturally deter even the moſt intrepid, though ſtrongly impelled by the feelings of humanity; and this would ſtill have more force with the firſt phyſicians, whoſe reputation might be the forfeit of their ill ſucceſs; for it makes an eſſential difference to a practitioner, when his patient may become the immediate and evident victim of his experiment, which has often happened in Surgery, and when he runs no riſque of having evident proofs of his ignorance appear againſt him.

We may therefore well imagine theſe were powerful motives to incline timid philoſophers, rather to the practice of Phyſic than of Surgery, the event of which muſt have been extremely

tremely precarious; and that they might have influenced even Hippocrates himſelf to relinquiſh the practice of the latter to itinerants; who ſet no great value on reputation; for notwithſtanding he collected every thing that was known of Surgery in his time, it is much to be doubted whether he ever operated himſelf: and we have a ſtrong inſtance of his caution in this reſpect, which he even extended to his pupils, by including in the oath he adminiſtered them, a prohibition of cutting for the ſtone.

We are naturally arrived to the ſecond memorable era of Phyſic and Surgery.

When Aretæus, Galen, and Celſus, contributed to improve and illuſtrate the works of their great predeceſſor, the inattention of the two former to the improvement of Surgery, is evident; the firſt has left us little or nothing on the ſubject; the latter did not hold it in that degree of eſtimation to think of improving it. But in Celſus we find that ſyſtem of Surgery, which, with what Hippocrates left, has ever ſince been a ſtandard for profeſſors to teach, and authors to comment on: nor can we find any conſiderable improvement it received, not even in the hands of that acute people, ſo diſtinguiſhed in Phyſic, the Arabians, until the ſixteenth century. For notwithſtanding anatomy, in the thirteenth century, became an object of attention in Italy,

ly, to a few, as Mundinus, and J. B. Carpus, and that ſome authors in Surgery appeared, as Brunus, Saliceto, Lanfranc*, whoſe writings Cauliaco reduced into a ſort of ſyſtem; yet, whoever will take the trouble of looking over their ſeveral works, will find that the knowlege of Surgery was very little advanced by them.

In the beginning of the ſixteenth century, the ſpirit of anatomical enquiry took place of that blind acquieſcence in the opinions of the ancients, particularly in thoſe of Ariſtotle and Galen. Veſalius appeared, who freely expoſed and corrected their miſtakes, and abſurd theories; Euſtachius, Columbus, and Fallopius,

* Dr. Freind mentions two Engliſhmen of this claſs about that time, Aadern and Gadeſden.

contributed

contributed to advance anatomical knowledge ſtill farther by their reſearches, which received the moſt ſolid acquiſition in the diſcovery of the circulation of the blood, by the great Dr. William Harvey, publiſhed by him in 1628. This laid open and facilitated the true method of attaining the knowlege of anatomy, a ſcience which is now arrived to as high a degree of perfection as perhaps it is capable of receiving. I ſhall paſs over the detail of its progreſs, as not being immediately connected with the preſent ſubject.

Previous to that period, when anatomical knowlege began to be cultivated and extended, we cannot, with any degree of propriety, con-

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ſider Surgery as a ſcience reſting on ſolid principles; and being moſtly in the poſſeſſion of rude, illiterate men, it was deprived of the advantages which the reſtoration of letters, and cultivation of anatomy, would otherwiſe have procured it.

In the thirteenth century, the inteſtine troubles of Italy obliged many learned men to abandon their native country, and take refuge in France, among whom were ſome ſurgeons of reputation, particularly Lanfranc, a Milaneſe.

If we take a view of the ſtate of Phyſic in France, from the earlieſt times, even down to the fifteenth century, we ſhall find it chiefly ingroſſed

groſſed by the clergy *. It was with great reluctance the univerſity admitted it as one of their faculties, which did not take place until the latter end of Lewis the ſeventh's reign. After the ſtudy of Phyſic was eſtabliſhed in the univerſity, Surgery became a ſeparate profeſſion, when the chief care and direction of the ſick devolved on the ſurgeons; the phyſicians, who were only occaſionally conſulted by them in their chambers, formed their opinion by the urine of the ſick, and gave their directions accordingly to the ſurgeons.

In 1452, phyſicians, who before were under an indiſpenſable rule of celibacy, in order to be aſſociated to

* Vide Recherches critiques & hiſtoriques ſur l'Origine de la Chirurgie.

the

the univerſity, were permitted to marry, and to live out of it; and the clergy were diſcountenanced in practiſing phyſic. A jealouſy and rivalſhip now took place between the profeſſors of Phyſic and Surgery: the latter, till this period, had been, in a great meaſure, in poſſeſſion of the clinical practice of both profeſſions, and had erected the college of St. Come, and inſtituted lectures in favour of their pupils. But this proſperity of Surgery was by no means favourable to the intereſts of the phyſicians, who, in order to oppoſe its farther progreſs, and circumſcribe and curtail its practice as much as poſſible, made uſe of the barbers, who had already been introduced by the ſurgeons themſelves to do the meaner offices of the profeſſion.

ſion. The phyſicians eſtabliſhed lectures in their favour, procured them many privileges, arrogated to themſelves the power of deciding in all matters relative to Phyſic, and at length procured that heterogeneous junction of the ſurgeons with the barbers, to the diſgrace of a ſcience, on the advancement of which the happineſs of mankind ſo much depends, and to the laſting diſhonour of the authors, and of the age in which that act took place.

Surgery, loaded with diſgrace, circumſcribed in its practice, fettered in its privileges, would have ever remained a profeſſion which a man of a liberal education would have been aſhamed to embrace, had not its good genius got thoſe acts reſcinded,

ſcinded, in raiſing up Marechal and La Peyronie, who, by their indefatigable zeal for the honour and advancement of Surgery, procured this ſcience that honourable rank in ſociety, from which nothing but the rudeneſs and illiberality of the times could have excluded it.

In Germany, and the northern nations, Surgery, till within this century, was ſcarcely known as a regular ſcience. The learned Heiſter cannot be ſuſpected of exaggerating the ignorance of his countrymen; yet, in his preface to his Syſtem of Surgery, he tells us, the extent of their knowlege could hardly riſe ſuperior to bleeding, opening an abſceſs, or, at moſt, ſetting a fracture, or reducing a luxation; leaving ſurgical

gical diſeaſes, and operations of any moment, to itinerants and quacks, with which Germany ſwarmed then. However, a reformation ſoon took place, and, if we may be allowed to judge from the many valuable modern productions of German authors, Surgery is on a very reſpectable footing in that country.

When we conſider that, before the reign of Henry the eighth, the practice of phyſic was moſtly ingroſſed, as Dr. Freind remarks *, by illiterate monks and empyrics, who might eaſily obtain a licence to practiſe from the biſhop of London, or dean of St. Paul's, in whom the power of approving practitioners in London was veſted, as it was in the other

* Vide his Hiſtory of Phyſic.

biſhops,

biſhops, in their reſpective dioceſes until Linacre, by his intereſt with Cardinal Wolſey, obtained a patent for incorporating a college of phyſicians, endowed with excluſive privileges, we cannot be ſurpriſed that the progreſs of Surgery in England bore no proportion to that of France, and that the greater number of court ſurgeons for many years were foreigners.

From the Reſtoration, which was ſo favourable to the revival of the arts and Sciences in England, we find from time to time ſome eminent men, who contributed to the advancement of Surgery: but, two obſtacles oppoſed its making that progreſs it otherwiſe would have made;

firſt, the ſurgeons laboured under that diſgraceful junction with the barbers, which cramped their induſtry, and reſtricted to a ſmall number the pupils admitted into the hoſpitals, and clogged the privilege of diſſection with ſo many difficulties, as rendered it of little uſe. The other aroſe from the phyſicians, who aſſumed the right of lecturing on both anatomy and ſurgery. Thoſe lectures which related to the latter muſt have been very defective, for this obvious reaſon, that they were not actual practitioners.

After Dr. Read, who ſeems rather to have been a ſurgeon than a phyſician, thoſe lectures were diſcontinued; and Mr. Woodal and Mr. Clowes

Clowes took up the laudable deſign of teaching their own profeſſion. And it is ſomewhat ſtrange, that Wiſeman * hopes the phyſicians will not be offended. By this we may conjecture that it was the firſt attempt of the kind. From this time, Surgery became a reſpectable profeſſion, and received conſiderable improvements.

In 1748, Mr. Ranby and Mr. Cheſelden obtained a charter for incorporating and forming a Company of Surgeons, with ſuch privileges as were conducive to the farther advancement of this ſcience, and a total ſeparation from the corporation of barbers. Thoſe favourable acts

* Vide the Preface to his Surgery.

the ſurgeons improved ſo far, as to make their preſent ſurgical lectures equal, if not ſuperior, to thoſe of France; and we are every day indebted to them for ſome new improvement.

In Edinburgh, before the time of Mr. Monro ſenior, Surgery and Pharmacy were united; which, I believe, ſtill generally prevails: there were no public lectures on phyſic, and the diſſection of a human body was exhibited only once in three years, and no hoſpital was erected. Dr. Monro and his father, with an uncommon zeal for the advancement of phyſic, in 1720, removed all thoſe diſadvantages: lectures on the different branches of phyſic were inſtituted, a regu-

a regular courſe of Anatomy and Surgery was given in winter; and ſoon after, a commodious hoſpital eſtabliſhed. All thoſe advantages induced ſtudents from all parts to ſtudy in Edinburgh; and it became, and ſtill continues, one of the moſt reſpectable ſchools of Phyſic in Europe.

If Surgery, in Ireland, has not advanced in proportion to what it has done in the neighbouring kingdoms, we may juſtly impute it to the many peculiar diſadvantages the profeſſion has laboured under. Hoſpitals, the true ſeminaries of Surgery, were not ſo early opened, nor had we any regular courſe of Anatomy given until within theſe few years.

The ſurgeons were never formed into any regular ſociety, nor was there any general ſyſtem of ſurgical education adopted, and the incorporation with the barbers ſtill exiſts.

We ſhall now take a curſory view of the authors who, from the ſixteenth century, have contributed in any eminent degree to the advancement of Surgery.

There are few ſurgeons have ever held ſo diſtinguiſhed and honourable a rank as Ambroſe Paré, who lived in the ſixteenth century: he poſſeſſed all the advantages which a juſt diſcernment, quick penetration, and fertility of invention afford, in attaining

attaining an intimate knowledge of ſurgery. Paré ſoon roſe eminently ſuperior to all his contemporaries in ſcience, which procured him the honour of being firſt ſurgeon ſucceſſively to four kings of France, who repoſed the utmoſt confidence in his knowlege and dexterity in operations: and whenever they ſent him to preſide over the camp hoſpitals, the military might look on it as a particular mark of royal attention. He has left us an undoubted proof, in his Syſtem of Surgery, that he was by no means inattentive to improve thoſe favourable opportunities to the beſt advantage.

If, in order to be reſpectably voluminous, Paré has introduced many

points of phyſic, little connected with his immediate object of inquiry, and which rather tend to obſcure than illuſtrate it, this we may juſtly impute to the rude ſtate of literature in thoſe times, and the prevailing extenſive taſte of writers, who ſeldom confined themſelves merely to their ſubject.

In his Introduction, he, in ſome meaſure, adopts the then generally received principles of elements and temperaments: to his Anatomy, which is far from being deſpicable, he joins that of the comparative: on tumours, he has many uſeful practical remarks; thoſe on the enlargement of the meſentric glands in ſcrophulous patients; the danger in meddling

meddling with hard painful polypuſes in the noſe; opening tumours in ano, without waiting for their complete ſuppuration, to obviate the danger of the rectum being injured; againſt the precipitate opening tumours of the knee; internal anuriſms; that are the conſequence of the veneral diſeaſe, particularly claim our attention.

He is extremely judicious in adviſing bronchotomy, and preſents a more ſimple view of wounds of the head. He lays aſide all thoſe uncertain and frivolous ſymptoms annexed to fractures by preceding authors, clearly deſcribes thoſe which ariſe immediately from concuſſion, and thoſe which ſucceed in ſome days,

and

and are the conſequence of a ſuppuration formed on the membranes or the brain: he particularly obſerves having ſeen the brain affected, and the liver impoſthumated, in thoſe caſes. He is exceedingly deſcriptive in his diagnoſtics of wounds of the head, and no leſs judicious in his general mode of treatment.

When we conſider the method of treating gun-ſhot wounds, and of ſtopping hæmorrhages, in his time, we are ſtruck with an inconceivable degree of horror and ſurprize, that any patient would ſubmit, or could ſurvive having his wounds cauterized with boiling oil, or red-hot irons. The abſurdity, cruelty, and ill conſequence of this practice, Paré forcibly expoſed,

expoſed, and ſubſtituted ſoft ointments, &c. in the place of the boiling oil*, and the ligature in that of the cautery. He clearly ſhews, that it is to the concuſſion, contuſion, and laceration of the parts, in gun-ſhot wounds, and not to any poiſonous quality in the powder, which was then the prevailing opinion, that thoſe alarming ſymptoms ought to be attributed. In ſhort, his works may be conſidered, with every degree of propriety, as the baſis of modern Surgery; and there are few points of this ſcience that he has not illuſtrated with valuable obſervations.

To Ambroſe Paré ſucceeded Pigray and Guillemeau, both his pupils.

* See Note I. p. 91.

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The firſt has judiciouſly abridged and improved the works of his maſter; the latter extended his midwifery. Theſe three authors may be conſidered, with no great variation, as the ſtandard of practice in France, until the age of Lewis the fourteenth, an æra juſtly diſtinguiſhed for the liberal encouragement and advancement of the arts and ſciences.

The firſt ſurgical character of that age, who claims our attention, is Marechal. We find by the eulogium of this ſurgeon, in the Memoirs of Royal Academy of Surgery *, that he enjoyed a diſtinguiſhed reputation at a very early period of life He excelled in all the operations, but more

* Tom. II.

particularly

particularly in that for the ſtone, cutting in the method of the apparatus major, which he rendered more ſimple and ſure. Of this he gave the moſt conſpicuous and ſucceſsful proofs on people of the firſt rank.

He ſucceeded Mr. Felix, as firſt ſurgeon to Lewis the fourteenth, in 1703, who conferred on him every ſuitable mark of diſtinction. The acceſſion of Lewis the fifteenth made no change as to his ſituation. How much his endeavours, united to thoſe of La Peronie, contributed to the advancement of Surgery in France, we have already taken notice of. We find in Dionis and Garangeat ſome excellent obſervations of his: there is one, particularly, mentioned in his

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his elogium, of matter formed under the ſcapula, to which he ſucceſsfully gave exit by trepanning this bone. He ſeems to have poſſeſſed that diffidence, ſo characteriſtic of real merit, which oppoſed his publiſhing the various obſervations his long and extenſive practice muſt have furniſhed, which may be conſidered as an eſſential loſs to Surgery.

Mr. Petit, the ſon, was formed by nature for excelling in Surgery, poſſeſſeſſed the advantages of a moſt liberal and extended education, joined to the ſolicitude of a father for his inſtruction, who was himſelf the moſt celebrated ſurgeon of his time: therefore we cannot be ſurpriſed that this gentleman was, at a very early period

period of his life, ſo eminently diſtinguiſhed in his profeſſion.

In 1734, he was appointed ſurgeon-major to an army of 100,000 men, although not yet arrived at his twenty-fourth year, and, during two campaigns, aquitted himſelf of that important truſt, both to his own honour, and that of the miniſter's diſcernment in the appointment. A premature death, much to be regretted, and which ſeems to have been the conſequence of too great a zeal in attending the different duties of his profeſſion, fruſtrated all his extenſive views for the advancement of Surgery.

We have two excellent diſſertations of his in the Memoirs of the Royal Academy

Academy of Surgery *. The firſt is on extravaſations of blood, the conſequence of wounds in the abdomen, which, he ſays, are generally circumſcribed at the inferior part, and not diffuſed, as authors imagine, through the folds of the meſentery and inteſtines; and points out the neceſſity of making an inciſion on the moſt prominent part of the tumour, to give exit to the extravaſated blood. The ſecond is on impoſthumes in the liver, in which he lays down the difficulty we often meet with in practice, to judge when thoſe tumours terminate in ſuppuration, their extent, or parts engaged; the patient often dying before we can determine,

* Tome II.

except

except when it visibly points outwards. He instances where the matter has been discharged into the thorax through the diaphragm, or into the colon, and evacuated by stool: but whether an evacuation of the matter is procured by incision, or that nature interposes, our success will depend on the adhesions the tumour previously contracts with the surrounding parts, which circumscribe the effusion of the matter.

In whatever point of view we consider the character of La Peyronie, we shall find few more respectable: singularly zealous in his attachment to Surgery, he was indefatigable in promoting its advancement, and

 establish-

eſtabliſhing in France a liberal mode of ſurgical education, to which he contributed the greateſt part of a large fortune, acquired in the courſe of a long and extenſive practice; an act ſo truly patriotic, and of ſuch general utility, as juſtly claims every grateful remembrance. His abilities as a ſurgeon were early diſtinguiſhed, of which he gave the moſt ſucceſsful and ſtriking proofs in the camp-hoſpitals, and in reſtoring to health, in the moſt delicate and critical caſes, many ſovereign princes.

He ſucceeded Marechal as firſt ſurgeon to Lewis the fifteenth, in 1736. We have ſome valuable obſervations of his diſperſed in the firſt volume of the Memoirs of the Royal Academy

Academy of Surgery. The moſt important are thoſe on hernias, where the inteſtine is gangrened; the manner of procuring an adheſion of the remaining ſound part of the gut to the abdominal ring, or ſome of the ſurrounding parts, and the method of treatment after, is judiciouſly laid down. The obſtacles that oppoſe the natural ejaculation of the ſemen, he found frequently to conſiſt in cicatrices over the veru montanum, the conſequence of venereal gonorrhœas, which changed the natural direction of the orifices of the ſeminal ducts, or, in ſmall indurations, or ſtrictures in the corpus cavernoſum oppoſing a complete erection or ejaculation. He ingenuouſly confeſſes the ill ſucceſs of mercurial

frictions, if the patient has no actual venereal taint, and recommends the waters of Barrege. He gives a curious inſtance of a mortal ſtricture on the inteſtine, interiorly formed by the adheſion of the omentum to the peritoneum above the abdominal ring.

As the immediate object of this introduction limits us to thoſe Surgeons, whoſe writings are, in general, only to be met with in books that are ſeldom in the hands of the young ſtudent; and it being unneceſſary to mention the authors on operations, &c. to whom we ſhall have ſo much occaſion to have recourſe, in the ſeries of this work, we ſhall cloſe the account of the French

ſurgeons

ſurgeons with that of Mr. Petit the father,

Penetration, diſcernment, and induſtry, joined to a lively and inventive genius, ſeem to form the character of this juſtly celebrated ſurgeon. Zealous for the honour and advancement of Surgery, he ſuſtained, almoſt ſingly, the credit of its ſchools. He was aſſociated to the Academy of Sciences in 1715, in the Memoirs of which, we have ſome valuable improvements of his. There is one very eſſential, particularly to the military, where, in the hurry and confuſion of the day of battle, many would bleed to death, were it not for his invention of the tourniquet. He filled the moſt honourable offices in his profeſſion

with reputation, and affords us a convincing proof how far thoſe happy and rare talents, which he derived from nature, will ſupply the defect of a liberal education *, in the purſuit of ſurgical knowlege.

The ſolid improvements Surgery received, in England, from the hands of Mr. Cheſelden, are too well known to admit a minute detail. He ſeems to have poſſeſſed all thoſe happy talents, which ſecured to him that ſuperiority in his profeſſion he ſo juſtly acquired, and ſo long enjoyed. At twenty-two years of age he became profeſſor of anatomy, and ſoon

* He began at forty years of age to learn Latin, and ſucceeded ſo far as to be able to underſtand authors in ſurgery, who wrote in that language.

after

after publiſhed his conciſe and elegant book on that ſubject, which he has made more valuable by a number of curious obſervations in Surgery.

His improvement in cutting for the ſtone in the lateral manner, induced Mr. Morand, a Surgeon of the firſt reputation in France, to come to London, in 1729, to be inſtructed by him in this operation; and he gratefully acknowleges he was not diſappointed in his expectations. Mr. Garangeot, ſoon after Mr. Morand's return, ſet up an ill-founded claim to the honour of the invention of the lateral method in France; but this by no means diminiſhed the reſpect in which the Academy of Surgery held

Mr. Cheſelden; he was aſſociated to the academy at its firſt inſtitution.

His improvements in amputating by the double inciſion *, extracting polypuſes, making a ligature on enlarged tonſils, and the inciſion for a contracted iris, give us an idea of his penetration and diſcernment; and his own teſtimony, in poſſeſſing that happineſs of mind, that was never ruffled or diſconcerted, and a hand that never trembled during any operation, ſhews his abilities as an operator.

On reviewing the progreſs of Surgery, we find its advancement

* But it appears from Petit's poſthumous works, that he amputated by the double inciſion prior to Mr. Cheſelden.

was,

was, for a long time, unfortunately oppoſed by an opinion, which ſtill too much prevails, reducing this ſcience to a mere mechanic art, requiring in the ſtudent no previous liberal or extended education. But, if we conſider Surgery in a true point of view, we ſhall readily perceive the abſurdity of this opinion, and be convinced that the operative part of this ſcience requires the leaſt exertion of a ſurgeon's abilities; and that to judge with preciſion when to operate, to be ready to relieve ſupervening ſymptoms, which may be ſo various from difference of conſtitution, complicated caſes, &c. will afford a ſurer teſt of ſurgical capacity.

The immediate object of either Phyſic or Surgery, is the preſervation

or

or reſtoration of health. The province of Surgery takes the direction of thoſe diſeaſes that are more immediately ſubmitted to the ſenſes, and fall under the general denomination of external; while Phyſic limits itſelf to the internal.

If we conſider how eſſentially neceſſary an intimate knowlege of the œconomy of the human body is to either profeſſion, and the impoſſibility of attaining this by mere diſſection; how extenſive a ſtudy phyſiology is, and the various branches of natural philoſophy with which it is connected; we ſhall eaſily conceive the inſurmountable difficulties a ſtudent of a confined education will meet with, even in that which

ſhould

ſhould be the firſt object of his attention.

The diſeaſes to which mankind are expoſed, whether external or internal, are ſo intimately connected, and ſome ſo extremely ſimilar, both in their progreſs and event, as mutually to illuſtrate each other, that it is impoſſible to underſtand ſome of them, when entirely ignorant of all the reſt.

There are few ſurgical diſeaſes of any moment, that do not either induce or proceed from various morbid changes in the ſyſtem: to all operations, or accidents of any conſequence, ſucceed fevers, and a variety of nervous affections, running more

or

or leſs high, and terminating variouſly, according to the difference of particular habits of body. A Surgeon, whoſe knowlege is limited to outward applications, and manual operation, would be ill calculated to conduct his patients through theſe complicated caſes, attended with fevers, inflammations of the moſt alarming nature, gangrenes, critical depoſitions, large ſuppurations, dangerous abſorptions of matter, which excite in the nervous ſyſtem a dreadful variety of ſpaſmodic affections, or, by vitiating and melting down the craſſis of the fluids, exhauſt the patient in profuſe ſweats, or colliquative purging; or, by being tranſlated to ſome of the more important viſcera, put a quick period to the patient's miſery.

miſery. Theſe are accidents which frequently happen, and are not to be obviated or relieved by mere mechanical addreſs, but require in the Surgeon an intimate and extended knowlege of the animal œconomy, materia medica, and hiſtory of diſeaſes.

A gentleman *, whoſe opinion in other reſpects juſtly claims the greateſt deference, has advanced, "that if Surgery was confined to a ſet of men who were to be merely operators, the art would be more quickly brought to perfection by ſuch men, than by thoſe who followed a more complicated buſineſs, and practiſe all the branches of phyſic." As if the ad-

* Dr. Gregory, Lectures on the duties and qualifications of a phyſician, p. 47.

vantage

vantage arising from a liberal education, and knowlege in other branches of physic, should disqualify a surgeon from being a good operator, or making any improvement in his profession. Both reason and experience totally disprove this opinion; for it is obvious that Surgery, until within this century, was chiefly practised by such men, who left it in as rude a state as they found it; and that we are by no means indebted for the present advanced state of the profession, to illiterate, mechanical surgeons, but to men of genius, improved by education, and a suitable knowlege of physic.

The mind of the young student cannot, therefore, be too strongly impressed

preſſed with the true idea of Surgery, which is a liberal ſcience; and wherein, to arrive at any degree of eminence, requires a peculiar and happy turn of genius, a previous college education, an acquaintance with all branches of phyſic, joined to an addreſs in operating, which, by diſſection, and practice on proper ſubjects, he will eaſily acquire.

INTRODUCTION

TO THE

THEORY AND PRACTICE

OF

SURGERY.

SECT. I.

A General View of the Human Body and Animal Oeconomy, as adapted to Surgery.

THE more general and leaſt complex diviſion of the various parts which form the human body, is into ſolids and fluids; the ſtructure and compoſition of the ſolids differ according to the particular uſes they are deſtined to fulfil.

The bones, which may be conſidered as adapted to give form and figure to the body, ſuſtain and defend the ſofter parts, are compoſed of ſolid, compact fibres, differently arranged, according to the particular conformation of each bone; but in general ſo diſpoſed, as externally to form laminæ of different ex-

tent, ſtrata, and compactneſs. The internal ſtructure of moſt bones is of an irregular, ſpungy, cellular, or reticular texture, particularly near their extremities, which depends on the receding of the different laminæ from each other, the more internal decreaſing gradually in length. By comparing any of the long bones of the extremities, as the femur, or tibia, with the broad ones, as thoſe of the head, &c. we ſhall have the ſeveral peculiarities of the different claſſes.

Thoſe long bones, which require a conſiderable degree of ſtrength, and are fitted for motion, are more ſolid and compact in the middle, and gradually enlarge towards their extremities, where they are internally of a looſe cellular texture. This ſtructure, as Winſlow obſerves *, is well calculated to give ſtrength without any ſuperfluous incumbrance of weight; and to encreaſe the extent of the articulated pieces, which affords room for the inſertion of muſcles and ligaments, and ſecurely facilitates the motion of the joints.

The exterior and interior ſurfaces of broad bones are formed of compact bony laminæ, while the intermediate ſpace between them is

* *Vide*, his Anatomy.

made

made up of a curious cellular ſubſtance, which takes in general the name of diploe.

Over the external ſurfaces of bones is extended the perioſtium, a fine, ſtrong, inelaſtic, membranous expanſion, adherent to the bones, not only by an infinite number of its membranous filaments, which inſert themſelves into their pores, but by the various veſſels that pervade them, both for their nutrition and the ſecretion of the medulla.

All the internal cavities, and cellular or reticular ſubſtance of bones are filled, either with an unctuous fat ſubſtance, termed marrow, or, when in a more attenuated and liquid ſtate, medullary oil, as we find in the extremities of long bones, and diploe of broad ones, and, in general, in all the ſmall ones. This fine oily matter is depoſited in membranous cells, communicating with, and joined to each other, and ſurrounded by one general fine membrane, which adheres, like the perioſtium, to the internal ſurface of the bones.

The ends of all thoſe bones, which have moveable articulations, are covered with a ſmooth, white, elaſtic ſubſtance, which facilitates the free and eaſy motion of the joints, and confines the oſſeous fibres, termed cartilages.

Cartilages are diſtinguiſhed into different claſſes, according to their particular uſes; but they are all ſubſervient either to facilitate the motion, or immediate junction of the bones, or are added as appendices to them: they are of a more tender and brittle ſubſtance than bones, and often with age become really bony; the perichondrium is extended over them, except at the moveable articulations, as the perioſtium is over the bones.

It would be a difficult taſk to reduce into their proper claſſes, the different ſeries of veſſels, that we ſee pervading freſh bones, on ſeparating the perioſtium; it is more than probable they are of all claſſes.

All the moveable articulations are ſuſtained in their proper ſituations by ligaments; ſubſtances made up of very ſmall, ſtrong fibres, cloſely compacted and differently arranged, ſo as to be fit for their ſeveral uſes; ſome are diſpoſed like chords, bands, &c. while others take a membranous form, and ſurround the joints; the ſhort round ligaments are for the moſt part inelaſtic, but the broad membranous, or capſular ones, are more or leſs elaſtic. On opening any of the moveable articulations, we find a viſcid liquor like the white of an egg,

termed

termed ſinovia, which lubricates the joints, facilitates their motion, and obviates the ill effects of friction; this liquor is furniſhed by the exhaling extremities of the arteries differently ramified on the ſurface of the burſal ligaments, the tranſudation of the fine medullary oil from the extremities of the bones, and the mucus ſecreted by conglomerate glands ſituated in ſmall cavities within the joint, ſo as to be ſecured from any violent preſſure in the different motions of the joints.

Some modern phyſiologiſts have diſtinguiſhed thoſe more ſolid parts, which ſo largely contribute to form the general ſyſtem, from their inorganic appearance, into inert ſolids; and in this claſs they include the cellular membrane, cuticle, nails, &c.

By attending to the gradual advances of fetal bones to complete offification, we find them in very young fetuſes, in common with the other parts, a mere gluten, which after puts on the form of membranes; and we may eaſily perceive the oſſeous fibres, particularly in the bones of the cranium, like rays ſhooting between them from the center to the circumference, more or leſs divaricated; in the intervals run the different ſeries of veſ-

ſels, ſome loaded with a cretaceous or oſſeous principle, by which the bony fibres encreaſe and approximate, ſo as gradually to leſſen the vaſcular ſtructure, and acquire ſolidity and compactneſs. The only difference in long bones, &c. is, that the bony fibres ſhoot between the external and internal perioſtium in an irregular ring-like manner.

The ſolidity and compactneſs of bones will be encreaſed in proportion to the obliteration of their vaſcular texture, which, carried to a certain point, as in old age, renders them extremely brittle; but while the different ſeries of veſſels eaſily pervading them, and furniſhing an abundant ſecretion of medullary oil, preſerves to them a proper combination of tenacity and rigidity, more capable of reſiſting external violences than the hard inorganic texture of old age, it ſubjects them more to diſeaſes analogous to thoſe incident to the ſofter parts.

It has been a matter of much recent phyſiological diſquiſition to aſcertain whether tendinous, apponeurotic, ligamentous, cartilaginous, cellular, and bony parts, were endowed with ſenſibility or not, and in what degree: to the firſt parts, the ancients annexed an extreme degree of ſenſibility, which made them

them apprehend the worſt conſequences from their being wounded.

Mr. Haller * has, from a variety of experiments made on living animals, been induced to adopt a contrary opinion, which diveſts thoſe parts of ſenſibility and danger in wounding them. It is extremely obvious they are all more or leſs vaſcular; and although we cannot ſatisfactorily trace thoſe fine nervous filaments that enter them, we have yet the ſtrongeſt proof of their exiſtence, in the exquiſite pain attending their being in an inflamed or ſuppurated ſtate. It is true, that bones, expoſed and immediately ſubmitted to thoſe kinds of proof, give no ſigns of ſenſibility; but in an inflamed or carious ſtate they certainly do: it is much more reaſonable to conſider this property relatively, and which, to appear in thoſe parts, requires a certain degree of expanſion in thoſe fine nervous fibrils, that otherwiſe may be either too much enveloped, or too cloſely compacted.

* *Vide* his Diſſertation on Senſible and Irritable Parts.

THE MUSCULAR SYSTEM.

The moving powers, which are the muſcles, preſent themſelves next to our conſideration; they are compoſed of a number of red fleſhy fibres, ſomewhat elaſtic; in general running parallel to each other, and connected by cellular membrane; a parcel of theſe, ſo connected, form faſciculi, or little bundles, which, differently arranged and joined together by a more looſe cellular texture containing ſome fat, make up larger ones; the intermediate ſpace between thoſe bundles we find filled up with cellular membrane, containing more or leſs fat; a muſcle ſo formed is enveloped in a cellular ſheath, ſeemingly a production of that which connects the faſciculi, by which means it is divided from the adjacent muſcles.

Throughout the cellular texture of muſcles run an infinite number of veſſels, almoſt of all claſſes, and nerves, which expand and are loſt in it; the ſmaller veſſels exhale a vapour into the thinner cellular ſubſtance, while the oily particles that form the fat are transfuſed into the thicker: thoſe ſerve to keep the muſcular fibres ſupple and moiſt, ſo as to facilitate their

their action, and are re-abſorbed and taken back into the circulation.

The general diviſion of moſt muſcles is, into their belly, which is the middle and fleſhy part, and extremities, or origin and inſertion; the origin is often fleſhy, or partly fleſhy, and partly tendinous; while the inſertion, for the moſt part, particularly into bones, degenerates into fine cloſe compacted fibres, of a ſilver colour, with more or leſs cellular membrane, termed a tendon, when round, but when expanded an aponeuroſis. Thoſe muſcles, which are not inſerted into bones, as ſphincters, muſcular membranes, &c. have, in general, no tendons. On caſting our eye over the muſcular ſyſtem, we find an aponeurotic expanſion of proportional ſtrength exended over the greater number of muſcles, and ligamentous ſlips, binding down the tendons, with ſacculi mucoſi interpoſed between them, to facilitate their motion.

The action of a muſcle conſiſts in the contraction of its middle and fleſhy fibres, which draws both its extremities towards its belly; but the inſertion is, in general, the moſt or only moveable one; by this means they move the bones: this contraction renders each muſcle more or leſs broad, ſhort, hard, extended,

and

and pale throughout its circumference. Thoſe aponeurotic and ligamentous expanſions limit and confine this extenſion of the muſcles, and corroborate their action.

It would be foreign to our preſent purpoſe to recapitulate the many different theories of muſcular motion; we ſhall only obſerve, that all muſcular fibres are endowed with a principle of contraction and irritability, which is excited to ſtronger efforts by the application of any ſtimulus; we find ſome parts poſſeſſed of this principle, ſome hours even after death: but there ſeems to be two things eſſentially neceſſary to muſcular motion. Firſt, a free influx of nervous fluid through the reſpective nerves of each muſcle. The other depends on the circulation in the arterial ſyſtem; however a defect in this is not, in general, immediately followed by the loſs of muſcular motion, but we find it ſucceed when any of the larger arteries are divided &c. if the limb does not fall into mortification, a withering or atrophy of it ſucceeds, the integrity of the muſcles is ſpoiled, and their action either loſt or much impaired. By the muſcles variouſly co-operating and oppoſing each other, are performed all our voluntary and involuntary motions.

THE VASCULAR SYSTEM.

The animal fluids are circulated throughout the body by the arteries, capillaries, and veins. The general arterial circulation ariſes from the left and right ventricles of the heart; the firſt, by means of the aorta and its various branches, diſtributes the blood through the different parts of the body; the ſecond, by that of the pulmonary artery, &c. is deſtined to fulfil the ſame purpoſe through the lungs. The veins ariſe from the termination of the arteries, and encreaſe as they advance towards the heart, where they terminate in the left and right auricles by large venal trunks. The figure of arteries and veins is nearly cylindrical, and their diameters encreaſe or decreaſe in proportion to the diſtance from the heart. The coats of the arteries are, firſt, cellular, through which run ſmall blood-veſſels; the ſecond are fibres, not really muſcular, forming imperfect circles in the larger arteries, connected by ſome cellular membrane; the third ſeems cuticular and finely poliſhed. The coats of the veins, being fine thin membranes, are not eaſily diviſible, except in the larger; we find but few muſ-

muſcular-like fibres to be diſcerned, but, notwithſtanding they have a neceſſary degree of firmneſs: the veins are in general larger than their correſponding arteries, and are furniſhed with valves. Thoſe veſſels are generally more or leſs elaſtic, and endowed with a contractile power, independent of that elaſticity which adapts the veſſels to the fluids.

Through the interſtices of the fibres and membranes of the blood-veſſels, the thinner or more watry parts of the blood tranſude, or from the ends of exhalent arteries, or through the pores on the ſides of the veſſels, whether organized, or otherwiſe, into the cellular membrane and different cavities; this fine lymph is abſorbed by ſmall pellucid tubes, called lymphatics, in figure cylindrical, and joint-like from their numerous valves. They ariſe from different cavities, and generally traverſe the lymphatic glands, and diſcharge themſelves into the thoracic duct; which tube ariſes near the diaphragm, and opens by a valve into the angle between the jugular and ſubclavian veins of the left ſide; but ſome lymphatics terminate in veins, &c.

The ſecretories and excretories are thoſe different ſeries of veſſels belonging to certain organs, adapted to ſtrain off, and tranſmit from the general maſs, certain humours.

NERVOUS SYSTEM.

The brain is a ſoft, inert, inſenſible maſs, filling the cranium, externally of a greyiſh, or aſh colour, internally white; an infinite number of blood-veſſels traverſe it. The arteries, on entering the cranium, are diveſted of their thick, ſtrong, elaſtic coats, and anaſtamoſe in general; and the ſmaller veins enter ſooner into a large trunk, whoſe ſides are of a firmer texture. From the white, or medullary part of the brain, maſſes of fibres ariſe, which go to every part of the body; theſe are called nerves. There is a continuation of the brain down the cavity of the ſpine, named ſpinal marrow; and here the medullary part is external, while the cineritious occupies the middle. The brain and ſpinal marrow are covered by firm membranes, viz. the dura and pia mater.

The nerves proceed from the brain in trunks, and are variouſly ramified as they paſs to the different parts of the body. If we cloſely examine them, we find each trunk but a bundle of nervous filaments, which only ſeparate as they branch, and often meet and join, forming round, reddiſh, glandular-like maſſes, called ganglyons, and branch out again; thoſe va-

rious

rious branches ſeem at laſt to degenerate into a kind of, what may with propriety be called, nervous mucus; in which Haller, under the name of gelatinous mucus, placed the principle of irritability.

CELLULAR SYSTEM.

The muſcular fibres, the vaſcular and nervous ſyſtem, are united by this fibrous laminated ſubſtance; it is the medium of connection between all the different parts that compoſe the body; in its cavities is depoſited lymph, or oil, and it is every where interwoven with capillary veſſels and nervous filaments: there ſubſiſts throughout this extenſive ſpungy web a free communication of veſſels. When we conſider what a great part of the body may be reduced into cellular membrane, we may judge its importance in the animal oeconomy.

THE FLUIDS.

The blood conſiſts of, 1. ſerum; 2. coagulable lymph; 3. craſſamentum; 4. ſuperfluous water; 5. extraneous ſubſtances introduced.

Thoſe are ſo diffuſed and mechanically mixed through each other, that the blood, as it

it flows in bleeding, ſeems an homogeneous fluid.

Thoſe are the different parts that give ſenſibility, mobility, and irritability, and animate the body; the effect produced by their united operations in the vaſcular ſyſtem is the circulation.

The heart is a muſcle poſſeſſed of a more eminent degree of irritability than any other muſcle; as the blood returns by the two large veins into the auricle, which contracts during the relaxation of the ventricle, by which this laſt is filled; which ſtimulates its muſcular fibres to contraction, by which the blood is impelled into the aorta; a valve, at the opening of the auricle into the ventricle, hinders the blood from returning into the firſt. On the relaxation of the ventricle it receives a freſh quantity of blood from the auricle; the valve at the opening of the aorta, hinders the blood to return from it into the ventricle. Thoſe alternate motions of the heart have been thought to produce an equal and uniform circulation throughout the body; but this cannot be admitted, except in the large veſſels.

The contraction of the left ventricle impels the blood into the aorta; immediately the artery

tery enters into contractions, and forwards the circulation. Now if we conſider what an infinity of veſſels ariſe from the aorta, its ramifications, &c. which are diſperſed throughout the body and cellular ſyſtem, which ſeem but a net-work of veſſels running in all directions, and anaſtamoſing before the blood begins to be returned by the veins, into the cava and right auricle, we may eaſily ſee how impoſſible it would be for the powers of the heart to circulate the fluids through ſuch an infinity of veſſels.

The principle of motion, in all our ſolids, is irritability, derived from the influence of the nervous ſyſtem; from which circumſtance we may conſider the whole arterial ſyſtem as endowed with a living or moving principle, liable to be excited by certain ſtimuli, independent of the heart. We have ſeen the blood driven by the contraction, which it excites in the left ventricle of the heart, into the aorta, which, in its turn, is excited to contract, and ſo propel it through the arterial ſyſtem into the veins, which ending in the two vena cavas, open into the right auricle, which diſcharges the blood into its reſpective ventricle, which, contracting, drives it into the pulmo-

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nary artery, which having, by its ramification, made the circuit of the lungs, the blood is returned by the pulmonary veins to the left auricle, ſo into the left ventricle, to begin again the circulation. Now, although this is the general tenor of circulation in the large arterial ſyſtem, yet we muſt exempt the capillaries and thoſe in the cellular ſyſtem.

Thoſe gentlemen * who have examined the courſe of the circulation, in the capillaries of living animals, have ſeen the fluids in them take different directions, and, if obſtructed in one courſe, paſs into veſſels of communication †. The circulation in them may be variouſly determined to any point by irritation.

The capillaries connected by cellular membrane, form a general net-work of veſſels, and ſeem to conſtitute or enter the greater part of the body, and are endowed with an oſcillatory or contractile power, which circulates the fluids through them according to the different exigences of the animal œconomy. Part of the fluids, in this kind of vaſcular tex-

* Vide Senac. Traité du Cœur. Sauvage Noſolog. Method. Whytt, on the Motion of the Fluids in the ſmall Veſſels.

† Vide Note 11.

ture *, are taken up by the veins from time to time, and reconveyed into the general circulation, and proportionably renewed by ſome capital arterial trunks; but ſtill the greater part of our fluids are circulating through the cellular membrane, not obedient to the general laws of circulation independent of the influence of the heart, and driven in all directions, which are liable to be changed by adventitious cauſes, often contrary and ſuperior to the general laws of circulation; of which we ſhall find many proofs in treating of inflamations.

* Vide Bordeu, Recherches ſur le Tiſſu muqueux ou cellulaire.

SECT. II.

The General Proximate Cauſe of External Inflammations; their Symptoms, Diſtinctions, Prognoſtics, and Method of Treatment.

THE general proximate cauſe of inflammation has ſo far engaged the attention of phyſicians, as to give riſe to a variety of different theories, many of them really more curious than intereſting. The ancients, whoſe anatomical knowlege was extremely rude and limited, were but ill calculated to inveſtigate the cauſe of a diſeaſe, which depends on a derangement in the circulatory ſyſtem. The medical writers of this century, poſſeſſing the advantages, which anatomy and experimental phyſics afford in reſearches of this kind, have eminently contributed to ſimplify and illuſtrate the doctrine of the preſent diſeaſe.

For many years after the celebrated Boerhaave and Hoffman's time, inflammation was ſuppoſed to proceed from an obſtruction in the capillary veſſels, formed by their diameters being leſſened by ſpaſmodic conſtriction,

or otherwiſe; or from a morbid degree of tenacity in the circulating fluids, diſproportionably encreaſing the ſize of the globules to the capacity of the veſſels, through which it was deſigned they ſhould freely paſs, joined to an increaſed velocity of the blood determined to the part obſtructed. From theſe principles the celebrated Van Swieten concludes, that no inflammation can be conceived without an obſtruction alſo attending.

Later writers* have, for the moſt part, rejected this theory, and endeavour to prove, that ſimple obſtruction will never produce an inflammation; that it may depend on an oppoſite cauſe; that there is a freer circulation in inflamed parts, and the veſſels more diſtenſible in them, than in a natural ſtate.

I will not preſume to enter into a diſcuſſion of the various opinions, of thoſe learned and ingenious gentlemen relative to this ſubject, but, referring the curious to their ſeveral works, proceed to deſcribe thoſe inflammations that more particularly fall under the ſurgeon's care.

* In particular, vide Whytt, on the Motion of the Fluids in the ſmall Veſſels; and vol. I. of Sauvage's Nolog. Method.

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When any part, upon the ſurface of the body, becomes preternaturally enlarged, unuſually red, hot, tenſe and painful, it is ſaid to be inflamed. If the part is elevated into a tumour, it is called a phlegmon; but where the inflammation is more extended, not circumſcribed, of a yellowiſh red colour, and but little raiſed above the ſkin, it is termed an eriſipelas. The more general and conſtant ſeat of this diſeaſe, is the cellular and adipous membrane *.

Inflammations may be diſtinguiſhed into ſuch as are ſimple, where the ſymptoms that appear are confined to the parts affected, unattended with any conſiderable diſturbance in the general ſyſtem; and into ſuch as are accompanied with ſhiverings, fever, and various morbid affections of the nervous ſyſtem.

The late ingenious Dr. Whytt's Enquiry, into the Cauſes which promote the Circulation of the Fluids in the Small Veſſels, has contributed to throw great light on the proximate cauſe of inflammation, by clearly demonſtrating the inſufficiency of the propelling force of the heart, and larger arteries, to circulate the fluids through the ſmaller ones.

* Vide Note III.

We are neceſſarily led to conſider the capillary ſyſtem of veſſels as endowed with an irritable principle, which the fluids excite to ſmall alternate contractions or oſcillations, upon which the circulation through them depends. This oſcillatory motion we find prodigiouſly encreaſed in any ſenſible part, by the application of ſtimulant ſubſtances, frequently without the action of the heart, or general arterial ſyſtem being perceptibly increaſed.

A few general reflections, on the effects produced by the application of ſtimulant ſubſtances to any ſenſible part of the body, will tend to ſet the doctrine of inflammation in a clearer point of view, and ſhew how far we may conſider obſtruction as a cauſe.

The more evident effects of ſtimuli applied to irritable parts of the body are either, an immediate contraction or convulſion of the parts affected; an increaſed ſecretion of humours; or, by exciting the ſurrounding ſmall ſeries of veſſels to quicker oſcillations, to determine the fluids, contrary to the general laws of circulation, with an increaſed velocity to ruſh as it were from a circumference to a center, that is to the point irritated, and form an inflammatory tumour; which effect will exiſt as long

long as the parts remain irritable, or the matter irritating.

Here it evidently appears, that an inflammation may be, and generally is, formed independent of any previous obſtruction; and experience will ſtrongly incline us to believe, that obſtructed parts may, and in fact do, remain for many years unaccompanied by any inflammatory ſymptom, inſtances of which we have in ſchirrhuſes, until irritated by cauſes either external or internal: the irritation being calmed, the ſymptoms diſappear, and leave the part as it was before. Recent wounds, if not conſiderable, having their lips immediately approximated and defended from the air, often heal without any inflammation or ſuppuration intervening; the contrary of which will happen if expoſed.

From the general anaſtamoſis throughout the capillary ſyſtem, it is but reaſonable to imagine that, although a number of them may be obſtructed, the fluids, far from urging againſt the obſtructed veſſels, diſtending their ſides a tergo, would make their way through the various veſſels of communication *, where

* Vide Sauvage's Noſol. Method. vol. I.

no reſiſtance oppoſes their circulation. We have a ſtrong proof of this happening in amputated limbs, the firſt days; for the ſucceeding inflammation cannot, with any degree of propriety, be imputed rather to obſtruction, which took place immediately on the operation, than to the effects of any ſucceeding irritation.

However, although obſtruction be not a principal cauſe of inflammation, it generally is an effect, and often an occaſional one, from the fluids ſpontaneouſly degenerating, becoming acrid, diſtending and irritating the ſides of the veſſels. I preſume it will appear from this, that the principal cauſe of inflammation is to be found in irritation, and that ſo far from requiring an encreaſed force of the heart and velocity of the general circulation, it is often formed independent of either, thoſe general ſymptoms of inflammation being ſecondary, and ſeldom primary; it otherwiſe would be impoſſible to conceive the manner in which a tumour is formed, immediately on the irritation of a ſenſible part, the action of the larger arteries being not at all quickened, and making

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an allowance for the ſlow circulation through the capillaries *.

From this we may infer, with every degree of propriety, that all inflammatory tumours are formed by an encreaſed contractility in the ſurrounding ſmall veſſels, propelling their fluids to the point irritated, independently of the heart and larger arteries. We have a farther proof of this in the manner in which inflammations terminate.

Extraneous ſubſtances introduced into the body, while reſting there, are attended by inflammation; but on their extraction, except ſome conſiderable parts are wounded, the inflammation generally ſubſides without any farther trouble: if thoſe extraneous ſubſtances are left unextracted, another event takes place; to the inflammation ſucceeds ſuppuration, which takes off the ſenſibility of the part affected, and detaches the irritating matter ſo as to be caſt out. We find, when irritating ſubſtances are taken into the ſtomach, or firſt paſſages, either an immediate convulſion takes place, and the matter is thrown up, or an increaſed ſecretion of humours ſheathes the parts

* Vide Fabre's Eſſais ſur differens Points de Phyſiologie, p. 45. Bordeu de l'Inflammation, p. 97.

from

from being irritated, and obtunds the irritating quality of the matter ſo taken in, ſo as to make it paſs out of the body, without occaſioning more commotion than is neceſſary to its expulſion. Nature and art both contribute to produce this effect.

The curative indications are calculated to obviate the effects of irritation. Repercuſſives, emollients, bleeding, &c. have all their good effects; the firſt, act, by bracing the veſſels, and ſo oppoſing the rapid influx of the humours; the ſecond, by taking off the effects of tenſion; the third, by leſſening the quantity of blood in the general ſyſtem, diminiſhing the nervous influence on the part affected, and rendering it, of conſequence, leſs irritable. Smart purging produces good effects, by turning the oſcillatory motion towards another part.

To what a monſtrous ſize do the extremities get, in two or three days, after wounds of the tendons, ligaments, or articular membranes. We cannot impute this to obſtruction, for that event took place the firſt day: the puncture of a tendon, it's half diviſion, ſhew the ſame phenomenon. It may be thought that a ſpaſmodic conſtriction of the aponeuroſis of the muſcles, and other membranous parts, ſucceeds, which

by

by girding, as it were, the veins, choaks up the circulation; and they who are of this opinion ſhew that, by freely dividing them, we make the tenſion ceaſe.

That inciſions in thoſe caſes often ſucceed, no practitioner will deny, in as much as they obviate ſome of the effects of inflammation, without taking the cauſe away, and give exit to putrid ſerofity, &c. But we frequently ſee that, notwithſtanding all thoſe aſſiſtances, a gangrene will ſeize the limb; an event which would not take place, if the cauſe of the inflammation were removed.

I have often obſerved, that parts which had ſuffered conſiderable violence, have been thrown into a kind of torpor, or inſenſibility, which ſecures them the firſt days from any conſiderable degree of inflammation; a circumſtance which often ſurpriſes us after with the moſt alarming ſymptoms.

We will now conſider the ſymptoms of inflammation ſingly; and firſt, the tumour.

We have already ſeen, that irritating any part of the body to a certain degree, will excite the ſurrounding capillary veſſels into quick contractions, ſo as to impel the fluids with rapidity to the point irritated; and a tumour will ſucceed in

proportion to the irritation, and irratibility of the part affected, accompanied with the following ſymptoms; firſt, heat; as the ſolids and fluids of the human body are endowed with the principle of heat, like other bodies, liable to be encreaſed by various cauſes; and in this caſe, from the attrition and collifion that take place between the ſolids and fluids, this principle will be developed, its activity encreaſed, and that in proportion to the rapidity of the oſcillatory motion.

As heat expands and rarifies the fluids, the veſſels already overcharged muſt, in conſequence, be conſiderably diſtended, which will encreaſe the irritation and influx of humours to the inflamed part; the thinner fluids now will exſude, from the pores and extremities of the veſſels, into the cellular membrane; while the more groſs will be forced and impacted into the ſeries of ſmall veſſels diſproportioned to receive them, and which contain no coloured fluid in a natural ſtate. From hence follows the redneſs, tenſion, pain, and general confuſion in the circulation of the part affected.

The pulſation is that dilatation of the veſſels which is ſenſible to the touch; here we muſt have it encreaſed in proportion to the quantity and velocity of the fluids driven to the point irritated;

irritated; and as now the circulation is, as it were, choaked up in the inflamed part, the nervous ſyſtem will be affected, and general ſymptoms take place, more or leſs acute, in proportion to the different texture, tenſion, and importance of the inflamed part. Shiverings, anxiety, reſtleſſneſs, the ſure precurſors of fever, will be ſucceeded by general heat, thirſt, hard quick pulſe, &c. which ſymptoms will continue until the inflammation terminates in health, another diſeaſe, or death.

PROGNOSTIC

Is founded on a previous knowlege of the intenſeneſs of the cauſe producing the inflammation, the importance of the part affected, habit of body, and ſex of the patient. Thus inflammations ſucceeding to wounds, fractures, luxations, operations, except the ſymptoms run high, do not alarm us, as being no more than what ought to be expected. Thoſe proceeding from extraneous ſubſtances, ſubſide, in general, on their being extracted; unleſs the wound is conſiderable, or the patient of an irritable bad habit of body. But we ever find that, after operations or injuries done

done on tenſe, membranous, or ligamentous parts, inflammations run higher, attended with more or leſs diſturbance in the general circulatory and nervous ſyſtem.

Inflammations that ariſe from internal cauſes, and fix on the external parts, require particular attention, as to the method of treating them, being often an effort of nature to throw out ſomething hurtful to her, as we ſee in ſome erifipelaſes, and in poxed, ſcrophulous, and gouty patients, where the repelling the inflammations would be of the worſt conſequence. Thoſe that precede or accompany critical tranſlations, ſhould, in general, be encouraged to ſuppurate. Thoſe that ſeize dropſical habits, particularly the ſwelled legs that ſometimes attend an acites, will often gangrene, notwithſtanding all our endeavours.

CURE.

The moſt deſirable termination, in general, of inflammation is reſolution, by which the integrity of the part affected is preſerved; this is brought about by removing the cauſe of irritation, taking off the irritability of the part, moderating the intenſeneſs of the oſcillatory motion, and impetus of the blood; ſo as that the

the exſudation in the adjoining cellular texture may be abſorbed, or thrown out on the ſurface, the veſſels be unloaded, a free circulation take place, and the ſtate of the part become the ſame as before. This event will much depend on our being called in early; otherwiſe, very often, it will not be in our power to prevent a ſuppuration, or even a gangrene, from ſucceeding.

The firſt view we ſhould have, in fractures and luxations, is their reduction; but if the inflammation dependent on fractures, with ſplinters irritating the neighbouring parts, runs very high, the reduction, in general, will be impracticable, and the attempt of the worſt conſequence: looſe ſplinters may certainly be removed with advantage, but to think of extending an inflamed limb, no prudent ſurgeon will attempt it. Here our whole view ſhould center in obviating the effects of irritation, by leſſening the irritability of the part, and the general inflammatory ſymptoms that may reaſonably be expected to ſupervene. To this effect bleeding will conduce, which muſt be repeated according to the degree of fever, pain, and tenſion; the bowels muſt be kept free and open with the neutral ſalts; recourſe

courſe muſt be had to plentiful dilution and low diet, ſaline juleps, topical applications, ſuch as emolient pultices and fomentations; which will contribute to leſſen the tenſion, with a prudent uſe of an opiate at night to procure reſt.

The ſame conduct we muſt purſue, with regard to luxations and the extraction of extraneous ſubſtances; for we ſeldom can reduce, or with ſafety attempt the reduction of a luxation, when there is an high degree of inflammation attending, and muſt neceſſarily wait, until, by the above methods, thoſe ſymptoms are removed; and for extraneous ſubſtances they are more ſafely extracted after the ſuppuration is formed, except we are called in before the inflammation is far advanced.

Inflammations ſucceeding operations are not to be dreaded but when they run too high; to prevent which, all ſtrict bandages ſhould be carefully avoided, quietneſs enjoined, and a relaxed favourable poſition of the part, with ſuch antiphlogiſtics as may be indicated.

In an eriſipelas, if but ſlight, and not attended with any great diſturbance in the general ſyſtem, by fomenting the part with a de-

decoction of camomil and elder flowers, to a quart of which is added an ounce of Goulard's extract of lead, and giving ſome cooling purgatives, in a few days it generally ſubſides; but if it is preceded by a ſmart rigor, and accompanied with fever, &c. it requires a more ſerious attention.

If the eriſipelas is much extended, of the tenſe inflammatory kind, the patient's pulſe hard, full, and quick, bathing the feet in warm water, and bleeding in the foot, will be adviſeable, if the eriſipelas occupies the upper extremities or head, otherwiſe in the arm. This operation may be repeated, if we find the inflammatory ſymptoms do not ſubſide. Purging at proper intervals, with any of the neutral ſalts, will be alſo neceſſary; an antiphlogiſtic regimen, with copious dilution; the the patient may take every two hours two ſpoonfuls of a ſaline julep, to which two or three grains of tartar emetic is added; a relaxed perſpirable ſurface being of the utmoſt ſervice in this complaint.

But, in general, the eriſipelas attacks more frequently thoſe patients who are of bilious conſtitutions; and although the feveriſh ſymptoms run high, often attended with delirium, the pulſe

is ſeldom ſtrong or full, nor will the patient bear bleeding with any advantage. Here our attention muſt be directed to keeping up a free evacuation by the bowels, and ſuch medicines as will tend to promote a gentle and conſtant diaphoreſis, ſuch as the ſaline julep with tartar emetic, or ſpirit Mindereri. The local applications may conſiſt of fomentations, as already mentioned, and a pultice of camomil and elder flowers, boiled up with crumbs of bread in the liquor of the ſtupe.

If the eriſipelas ſhould ſuppurate, or tend to gangrene, the bark, with a ſuitable regimen, muſt be adminiſtered in ſuch quantities as the exigency of the caſe requires; the fomentations may be continued, and the pultice of oat-meal and porter ſubſtituted. In the gangrenous eriſipelas, when a ſuppuration is eſtabliſhed, the curative treatment has nothing particular in it. In thoſe caſes, if at any time the head or breaſt ſeem affected by a repulſion of the eriſipelatous matter, bliſters or ſinapiſms muſt be immediately applied.

Inflammations proceeding from internal cauſes, more particularly ſuch as appear critical, ſhould be left to nature; and art can be only ſerviceable in keeping a proper ballance,

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ſo as to check the violence of the ſymptoms, without too much lowering the vis vitæ, and to promote ſuppuration in general *; but in bad habits of body, particular attention ſhould be had to the prevailing acrimony.

As to thoſe large ſwelled legs, which attend dropſical patients, when they inflame, an event we often ſee take place in the latter period of this diſeaſe, particularly in hard drinkers, we can expect but little ſucceſs from any application. The beſt application I know in thoſe caſes, is oat-meal boiled up to a pultice in porter: fomentations may be applied; but we ſhould carefully avoid, in this ſtate, making any ſcarifications in the legs, by way of unloading the general cellular ſyſtem; for we generally find, that even ſmall punctures with a lancet, inſtead of anſwering our intention, add to the irritation, and precipitate the parts into a gangrenous ſtate †.

If our endeavours to effect a reſolution do not ſucceed, and the inflammatory ſymptoms not only continue but encreaſe, we muſt direct our attention to the next more favourable change, which will be into ſuppuration.

* Vide Note IV. † Vide Note V.

SECT. III.

Of Suppuration.

THE inflammation being now at the higheſt, and the different ſeries of veſſels loaded with fluids, ſtill urging to the point irritated, the heat developed by the attrition between the ſolids and fluids, will, by rarifying the latter, diſtend the former, and dilate the exhalent veſſels; by which means there will be an exſudation of ſerous humours into the cellular and adipous interſtices, whoſe texture in part will gradually be diſſolved, the coats of the ſmall veſſels ſlough off, and the different ſeries of humours, being broke down and fermenting, will form, by a new combination, a white, opaque, unctuous liquor, without any offenſive ſmell, termed pus. This matter, in circumſcribed tumours, will occupy the centre; but, in extended inflammations, we often find many points of ſuppuration, which, running into one another, form large cavities and different ſinuſes in the cellular and adipous membrane.

After

After this change takes place in the inflamed part, we generally find a conſiderable abatement of the redneſs, heat, and pain. At this period, irregular ſhiverings, ſucceeded by tranſitory feveriſh fits, will ſometimes invade the patient, particularly if the quantity of matter be any way conſiderable, from the thinner part of the pus being taken up by the abſorbing veſſels, and carried back into the circulation. But in collections of matter that are incloſed in a cyſt, or ſurrounded with an inflammatory hardneſs, this abſorption of matter will ſeldom or never take place.

If after the ſuppuration is completely formed in the tumour, the event is left to nature, the following changes generally happen: inſtead of the pain formerly in the part, the patient feels a weight in it: if the collection be not deeply ſituated, the tumour will become more and more pointed, yellow, and the fluctuation will be rendered perceptible; at laſt the central point becomes bluiſh, and burſts, by which an exit is given to the confined matter. A purulent diſcharge will now ſucceed, and continue in proportion to the enlargement of the ſurrounding parts; but this ſubſiding, of courſe it leſſens, the lips of the aperture come into

contact with each other, and, by means of a nutritious gluten, the rupture in the ſkin will be cicatrized; but if there has been a great deſtruction of the cellular and adipous membrane, a fiſtula will often remain.

PROGNOSTIC

Will depend on a juſt idea of the cauſe of the preceding inflammation, the importance and ſituation of the part affected, and the general habit of body of the patient.

We have already ſeen that, after our endeavours to bring the inflammation to a reſolution prove fruitleſs, the next more deſirable change was ſuppuration, which, when mild, and the patient of a tolerable habit of body, ſeldom proves dangerous; for by this proceſs the irritation is ſubdued; as in ſplinters, or extraneous ſubſtances, the pus diſſolves the cellular texture, by which means they become eaſy to remove, and the veſſels have liberty to diſburthen themſelves of their diſtending fluids. The tenſion and pain will conſequently ſubſide, and a favourable termination of the diſeaſe ſucceed.

But where the inflammatory ſymptoms run high, the inflammation of a large extent, and the ſuppuration formed in different points, the

patient of a dropſical, cacochymic, ſcorbutic, ſcrophulous, or poxed habit of body, thoſe are alarming circumſtances; for the matter, far from being thick, unctuous, and mild, will, in general, be thin, of an offenſive ſmell, and acrimonious; which will deſtroy the cellular and adipous membrane, and, by vellicating the coats of the veſſels, will conſtantly keep up an increaſed oſcillatory motion in them; and in conſequence there will be a thin ſanies, or bloody diſcharge, accompanied by more or leſs degree of inflammation and erithiſm in the ſurrounding parts: in a little time the aponeuroſis of the muſcles, capſules of the tendons, perioſtium, and bones themſelves, may be laid bare. In thoſe caſes, irregular ſhiverings, hectic fever, colliquative ſweats, diarrhea, all proceeding from the abſorption of this thin acrid matter, are conſtant occurrences; or a tranſlation of it to ſome of the more important parts frequently cloſe the ſcene.

Abſceſſes formed about the articulations, or near tendinous, aponeurotic, or tenſe, membranous parts, or about the rectum *, perineum, ſcrotum,

* As Van Swieten obſerves, there is no part of the body in which there are worſe fiſtulæ and ſinuſſes formed, by

ſcrotum, internal canthus of the eye, require our more particular attention and guarded prognoſtic, and that in proportion as the inflammation occupies a more or leſs extent; as likewiſe do critical abſceſſes, ſuch as ſucceed at the end of fevers, &c.

TREATMENT.

The treatment we will conſider under three different points of view. Firſt, when the matter is forming. Second, when formed. Third, the manner of letting it out, and treatment after.

When the inflammation not only exiſts, notwithſtanding the method propoſed for its reſolution, and the heat, pain, redneſs, and tenſion, are increaſed, we muſt lay aſide the reſolutive treatment, and co-operate with nature in bringing the diſeaſe to a laudable ſuppuration. As the irritation and heat are the principal agents in producing this effect, the ſurgeon's intention ſhould be confined to mode-

matter being too long confined, than about the inteſtinum rectum; for as the groſſeſt fæces muſt paſs through that inteſtine to be diſcharged, it was neceſſary it ſhould be capable of an eaſy dilatation every way, and therefore there is a large quantity of ſoft fat placed all round this inteſtine, into which the confined matter, which has been too long retained in an abſceſs, may penetrate, and form ſinuſſes.

rating

rating the general ſymptoms that will neceſſarily enſue. Emollient pultices ſhould be applied, a variety of forms which we meet with in moſt practical treatiſes, but few ſuperior to the flax-ſeed, or bread and milk pultice with oil; theſe ſhould be ſhifted morning and evening, or oftener, as occaſion may require. A paregoric at night will both contribute to the eaſe of the patient, and, in ſome degree, may promote ſuppuration. Evacuations are prohibited, except ſome extraordinary degree of fever ſhould counter-indicate it; but an emollient clyſter will be neceſſary to keep the bowels free.

In this method we muſt perſiſt until we find the tumour becomes ſoft, the redneſs abate, or turn towards yellow, accompanied with a ſenſible fluctuation, as we find when the matter is completely formed. The time which this will take, to produce this effect, will depend on the degree of inflammation, part affected, and habit of body of the patient; for we ſee, in ſome of inert relaxed ſolids, the formation of matter is very ſlow; while in thoſe of an oppoſite temperament, it is as ſurpriſingly quick.

The next conſideration is how to give exit to the pus. In a circumſcribed tumour, unattended

tended with any particular ſymptoms, ſurgeons generally employ either the knife or cauſtic: the firſt is ſafe, eaſy, and expeditious; the ſecond is liable to ſome objections: when the tumour is ſoft, and the fluctuation palpable, we may put in practice either of theſe methods, but not before. It is much better in thoſe caſes to be rather late than too early; for if we open the tumour before the ſurrounding hardneſs is diſſolved, we not only excite more pain, and riſque the injuring the ſubjacent parts, as the matter does not elevate the ſkin, but let out what, when mild, is the beſt diſſolvent, viz. the matter; and, in conſequence, will have a tedious ill-conditioned ſuppuration. But if we poſtpone the opening of the tumour too long, the matter will become thin, acrid, and may inſinuate itſelf into the ſurrounding parts, producing ſinuoſities and fiſtulous ulcers; the thinner part of it will be abſorbed, which may be productive of a purulent cacochymy; and the top of the tumour will become ſo thin and extenuated, and often gangrened, that we ſhall be obliged to remove it; which will expoſe a larger ſurface of ſore, and be followed by an unſightly cicatrix.

If

If we prefer the knife, the operation will conſiſt in taking the tumour between the fingers and thumb of the left hand, preſſing the matter to the ſuface, and then entering the biſtory, or abſceſs-lancet, into the ſofteſt and moſt prominent part of the tumour, and continue the incifion, ſo as to give ſufficient exit to the matter, and admit the eaſy application of dreſſing. If the tumour is of any conſiderable extent, and the ſkin much extenuated, the incifion will ſucceed beſt, in general, if it is carried from one extremity to the other; except deformity would be the conſequence, as in the face or neck, where a ſimple puncture with a lancet may be firſt tried, as we may, if neceſſary, enlarge it at any time.

The practice adopted by ſome ſurgeons, where there is a large cavity, and the lips any way thin, immediately to take them off with the hollow ſciſſars, is certainly highly imprudent; notwithſtanding their alledging that, by their ſubſiding, they would invert; in conſequence, inflame, impede the ſuppuration, and eaſy application of dreſſings. But thoſe effects are eaſily obviated by a light, eaſy manner of dreſſing, ſo as to ſupport thoſe lips until, by the ſucceeding diſcharge, the diſtenſion of the ſurrounding

rounding parts ſubſides, after which the cavity will diſappear.

If we ſhould find, when called in, the cap of the tumour bluiſh and mortified, or the ſkin quite extenuated, there will be a neceſſity of removing it; which will be beſt executed by the hollow ſciſſars. The objection, that they contuſe in cutting, and give more pain, will not lie againſt them in this caſe, as the parts are very little ſenſible. After the removal of the piece we find the matter thick, from having the finer parts taken up, or exſudated, and the bottom of the abſceſs, like a honey-comb, interſected with ſome remaining parts of the cellular membrane, formed into what is called bridles; theſe, the ſurgeons, introducing their fingers, break down; a practice which, in general, might be omitted, as it creates pain, and the ſubſequent ſuppuration caſting all thoſe kindly off.

The operation performed, ſoft, flat doſſils of lint, dry, or ſpread with ſome ſoft digeſtive, are applied, and renewed occaſionally. Thoſe doſſils, which are often dipped in warm linament è gum. elemi, ſoon become hard, and, of conſequence, painful and unfit, and are better omitted. A plaſter over all, and compreſs, and

and ſlip of flannel to keep the dreſſing on, will be ſufficient.

If it be thought proper to apply the cauſtic *, the manner of doing it is, firſt, to guard, with ſticking-plaſter, the ſurrounding parts; then lay the cauſtic ſomething leſs than the breadth of the intended opening, as it will run more or leſs; let it lie on ſo long as that it will have time to throw the part into an eſchar, which will be in proportion to the ſtrength of the cauſtic. After it is taken off, an aperture with a lancet, to let out the matter may be neceſſary. The eſchar may ſeparate in two, three, or four days; but if the flax-ſeed pultice is applied over the dreſſing, it will expedite it. The remaining treatment will not be diſſimilar to an abſceſs opened with the knife.

The caſes in which cauſtics are applied, with ſuperior advantages to the knife, are, when the matter is formed by a critical depoſition; and we would willingly prolong the ſubſequent diſcharge, in order to leave nature at liberty to throw off all offenſive matter. Such are the generality of indolent tumours, which have

* The lapis infernalis, beat up with a proportionable quantity of ſoap, and a little opium, I have always found to be a very eligible cauſtic.

had

had little degree of inflammation, and in which matter formed very ſlowly, the teguments thick, and the tumour large; and in ſome buboes and ſcrophulous tumours.

In all thoſe collections of matter, that are the conſequence of fractures, or extraneous ſubſtances, the preference muſt be given to the knife; and, in general, the freer the inciſions are made, the greater facility there will be in the extraction of ſplinters, or extraneous ſubſtances, and the eaſy application of dreſſings.

But in thoſe critical tranſlations, that are the conſequence of fevers, &c. where of a ſudden a large quantity of matter is thrown on different parts, as we often ſee occupying almoſt the whole ſide of the buttock; or in thoſe putrid or gangrenous ſuppurations formed about the margin of the rectum; in all thoſe caſes our ſucceſs will depend on the adminiſtration of internals, and not on the largeneſs of our inciſions; for were we to take off the lips in proportion to the cavity, what a large ſurface of ſore would we expoſe, by the conſtant irritation of which, and conſequent diſcharge, the miſerable patient would be ſoon exhauſted. The leaving a fiſtula, from the ſmallneſs of the inciſion, will be no objection to this method of

treat-

treatment; for the diſcharge will not be ſo great, nor the patient racked with continual pain, particularly at every dreſſing; and when, by the uſe of the bark, country air, &c. ſufficient ſtrength is acquired, any remaining cavity may be eaſily divided.

In all thoſe caſes we can expect little relief, if the bark, ſpir. vitriol. ten. and country air, have no effect; for if, notwithſtanding a ſufficient exit has been given to the diſcharge, it increaſes, becomes thin and ſanious, the patient melts into colliquative ſweats, attended with ſwelling of the legs, hectic pulſe, and irregular ſhiverings, a diarrhea may be ſoon expected; which will terminate in death *.

The treatment of venereal buboes, and abſceſſes formed in the breaſts of lying-in women, come next into conſideration.

Buboes are thoſe glandular abſceſſes that have their ſeat in the groin, and appear after a ſuppreſſed gonorrhea, chancre, or impure coition. From the two firſt cauſes we often ſee buboes ariſe, and, when encouraged to ſuppurate, terminate favourably the diſeaſe; but when, after impure coition, the firſt ſymptom of the infection is a bubo, the diſeaſe frequently

* Vide Note VI.

proves

proves obſtinate, from the general maſs of humours being infected. In either caſes, as they may be looked on as a critical effort of nature to throw out the virus, they ſhould, except ſome particular circumſtance counter-indicate, be encourage to ſuppurate; nor ſhould the authority of the celebrated La Peyronie induce us to act contrary, who put back a bubo that had matter formed in it, on the preſumption that, as mercury acts as a ſpecific, a diſcharge becomes unneceſſary; for, although all this ſhould be granted, the throwing off ſome part of the virus by diſcharge, will never impede the action of mercury as a ſpecific; on the contrary, there will be leſs for it to do: and if we but conſider what bad effects are produced by the abſorption of matter into the general circulation, although not loaded with the venereal virus, this practice muſt be rejected. The moſt inveterate poxes are ſeen to ſucceed ſuppreſſed buboes, and we have good reaſon to believe that many fall victims to this practice.

Buboes ſhould never, in general, be opened until the ſuppuration is completely formed, and all hardneſs diſſolved; for it is judiciouſly obſerved by Van Swieten, that he has ſometimes ſeen venereal buboes, which, being opened

too

too ſoon for fear of a confirmed lues, have occaſioned the greateſt difficulties, and often proved incurable for ſeveral months; the ſurgeons being obliged to conſume them by cauſtics, when the ſame thing might have been prevented with certainty, in a few days time, by letting the matter continue longer confined in the parts. The time that buboes take to their complete ſuppuration, will be in proportion to the degree of inflammation attending.

In the beginning of the tumour it will be beſt to deſiſt from any local application, until we find the ſkin change, and the tumour and inflammation advance; then the bread and milk pultice with flax-ſeed, or the gum plaſter, will contribute to forward the ſuppuration until it burſts, which is a much more eligible event than to have recourſe to inciſion. However, if the integuments are thick, though the ſuppuration be formed, we muſt have recourſe to the lancet; and a ſingle aperture will, in general be ſufficient. The practice of taking away an oval piece of the top of the tumour, and by that means expoſing a large ſurface of ſore in a naturally irritable part, is productive, ſometimes, of a large ill-conditioned, or even cancerous ulcer, attended with continual pain,

and the worſt conſequences *. This method ſhould never take place but where the ſurface of the bubo is gangrened.

The application of a cauſtic to old, indolent, half-ſuppurated buboes, is better, in general, diſpenſed with; for they ſeldom digeſt well, and frequently are attended with diſagreeable effects.

Abſceſſes formed in the breaſts of lying-in women ought, in general, to be left to burſt of themſelves; which they will do by the application of the flax-ſeed pultice, &c. By this means any diſagreeable hardneſs in the breaſt is generally prevented.

The remaining unfavourable termination of inflammation preſents itſelf next, which is that into a gangrene.

* Vide Note VII.

SECT.

SECT. IV.

Of the Gangrene.

IF the methods generally employed, and already propoſed, to bring the inflammation either to a reſolution or ſuppuration, prove ineffectual, and that the violence of the pain, fever, and heat, having increaſed, while the inflamed part is in the utmoſt ſtate of tenſion, there is every reaſon to expect an immediate gangrene; the actual coming on of which will be perceived, firſt, from a rupture of the veſſels, or their circulatory powers being deſtroyed, the fluids will either be diffuſed into the cellular and adipous membrane; or, ſtagnating, their putrefaction will ſoon ſucceed, deſtroying ſtill farther the tone of the veſſels, and ſpreading the gangrene. The inflamed part now changes from a clear to a dark red, and the cuticle, from the exſudation of the putrid ſerum, will be elevated into bliſters.

Secondly, from the leſſening of the quantity of ſtagnant fluids by exſudation, and no circulation ſubſiſting in the inflamed part, the ten-

ſion will, in ſome meaſure, ſubſide; and the pain, which depended on the diſtraction of the veſſels and nervous fibres, muſt ceaſe, from their texture being broke down.

Thirdly, as the increaſed heat was owing to the attrition and colliſion between the ſolids and fluids, it will be conſiderably diminiſhed; but the pulſe, although it generally ſinks, becomes quicker; as the gangrene advances, the part becomes livid, and, by degrees, quite black and cold; a kind of putrid fermentation takes place in the ſtagnant fluids and broken down ſolids, which may be frequently obſerved, particularly in thoſe gangrenes that are the conſequence of accidents, as fractures, wounds, &c. by which more or leſs elaſtic air is ſuddenly extricated and ſent forth, which makes the limb as tenſe as a drum, until ſet free by inciſion, or the ſkin's burſting.

The parts now become quite flaccid, and fall into a putrid ſtate of diſſolution; the patient has all that anxiety which precedes death, a clammy cold ſweat breaks through him, attended with a laborious breathing; and, from the abſorption of the putrid ſerum into the circulation, and falling on the nervous ſyſtem, he is ſhook, from time to time, either with rigors

gors or convulſions, or alternately with both, and generally violently delirious, until his ſtrength is quite exhauſted.

PROGNOSTIC.

All gangrenes claim our greateſt attention; for they are either ſymptoms of a highly vitiated habit of body, where the fluids ſtrongly tend to putreſcency, or the part affected having ſuſtained a great degree of violence.

Thoſe gangrenes that proceed from an internal cauſe, if not limited to the integuments, and of ſmall extent, are ever to be dreaded; and the more ſo, if the patient is of a cold, phlegmatic, inert habit of body, or anaſarcous; or if of a dry, thin, acrid, ſcorbutic diſpoſition, and old. In either caſe, the diſeaſe generally makes a rapid progreſs, and too frequently terminates in death.

Thoſe gangrenes that ſeize the extremities of old people, either through a defect of the vis vitæ, or from the veſſels having loſt their tone, coaleſcing, or the larger ones becoming oſſified or cartilaginous, are generally ſlow in their progreſs, and ſeldom very painful, the mortification being of the dry kind, but prove,

for the moſt part, mortal; as do likewiſe thoſe that come on old ulcers, where the diſcharge has been ſuppreſſed.

Gangrenes that ſeize fractured limbs, particularly if the fracture is a compound one, and near the articulation, and have come on ſuddenly, attended with a violent delirium, ſeldom admit of any relief. Thoſe that ſucceed gunſhot, punctured, or lacerated wounds of tenſe, membranous or tendinous parts, unexpectedly coming on, are of the moſt alarming nature. Thoſe from long lying, critical metaſtaſes, malignant carbuncles, &c. often yield to a proper method of treatment.

CURE.

The tendency of an inflammation's terminating in a gangrene, ſhould be ſtrenuouſly combated by all the poſſible means already laid down to bring this diſeaſe, either to a reſolution or ſuppuration; but if theſe do not ſucceed, and this event takes place, our intention muſt be directed to promote a ſeparation of the gangrened parts from the living, and to prevent any morbid matter, being abſorbed, from affecting the general ſyſtem.

In thoſe gangrenous eſchars that appear in cold, phlegmatic, or anaſarcous patients, whoſe cellular ſyſtem is loaded with ſeroſity, and of whoſe ſolids the general tone is impaired and weakened, it will be neceſſary, at due intervals, to promote either the diſcharges by ſtool or urine; and after, by the free uſe of the bark and wine, with a ſuitable diet, ſtrive to reſtore to the ſolids, in ſome degree, their former tone. The local applications will conſiſt in antiſeptic and animating fomentations, to which a proper proportion of vinegar and crude ſal ammoniac is added. The dreſſings may conſiſt of pledgits, covered with liniment è gum elemi, with a plaſter over; or thoſe may be often, with advantage, omitted, and the ſtrong-beer pultice muſt be conſtantly applied. In this caſe we may, by proper ſcarifications, procure every advantage to the acting of thoſe applications.

Thoſe gangrenes that appear as a black or bluiſh ſpot on the inſide of the toes, and paſs on to the foot, particularly incident to the rich, who indulge their appetites, have been, and are generally, treated externally, with antiſeptic fomentations, fermenting cataplaſms, ſtrong-beer pultice, and warm dreſſings, with a liberal

uſe of the bark, wine, and a generous diet. From conſidering the progreſs of the diſeaſe, which is moſt frequently attended with conſiderable pain, a gentleman* of great experience is induced to think this diſeaſe does not proceed from either a defect of the vis vitæ, or oſſification of the arteries, and that whatever heats and irritates will increaſe the diſorder. He recommends the application of the flax-ſeed pultice, ſoaking the foot and ancle in warm milk; the dreſſings to conſiſt of the ſofteſt and moſt lenient materials, avoiding all ſcarifications, inciſions, &c. leaving the ſeparation of the mortified parts to the care of nature; but above all, he inforces the giving opium in ſuch quantities, and at ſuch intervals of time, as to procure a ceſſation of pain; ſometimes giving one grain every three hours, taking care, at the ſame time, to keep the bowels free by clyſters, and never leſs than four grains in twenty-four hours. By this method he has ſucceeded beyond his expectation †. Experience will warrant our ſaying, that both methods of treatment will ſucceed in apparently ſimilar caſes. A remiſſion of pain ſhould certainly be procured by means of an opiate; but I believe

* Vide Pott's Works, vol. V. † Vide Note VIII.

the

the adminiſtration of the bark cannot, in prudence, be diſpenſed with. As to the external applications, whatever ſeems to agree beſt with the parts affected, ought certainly to be preferred, particularly the fermenting cataplaſm.

In fractures, all that can be done, if we are not called before the gangrene has actually taken place, is to prevent its progreſs, and cooperate with nature in the ſeparation of the gangrened part. If this event proceeded from a great violence, or from the contuſion and laceration of the parts, by the protruſion of the bones, preceded by a violent degree of inflammation, in this caſe authors much differ in their method of treatment; ſome recommend ſtimulant and antiſeptic applications, with ſcarifications, the adminiſtration of the bark, cordials, &c. Others think this method much more likely to promote what it was intended to obviate, and direct nearly an oppoſite mode of treatment. If the patient is young and ſanguine, ſome adviſe bleeding; but where a gangrene has already taken place, this will rarely be indicated, although the pulſe ſhould be full and ſtrong: ſcarifications are rejected, on account of their adding to the irritation. But where the inflammatory tenſion is ſo high, as that a com-

commencing gangrene is actually preſent, the parts are deprived of that exquiſite ſenſibility that authors imagine; for, on a cloſe examination, we find it is the general ſymptoms attendant on inflammation that diſtreſs the patient, and not any exquiſite pain he feels in the limb.

In a compound fracture, attended with great ſtricture and tenſion on the part, the fluids partly extravaſated through the cellular membrane, or crouded in diſtended veſſels, can any thing bid fairer to remove the ſtricture, unload the diſtracted veſſels, give free exit to the putrid ſerum, extravaſation, &c. or remove ſplinters, than freely dilating the wounded parts? after which the ſtrong-beer pultice, fomentations with a proper proportion of vinegar and crude ſal ammoniac added, light eaſy dreſſing, and a favourable poſition of the limb, are all we can do by local applications. Where a high degree of inflammatory diatheſis prevails in the general ſyſtem, the bark will not be adminiſtered with any advantage, until this ſubſides; and the neutral, antiphlogiſtic medicines will have the preference; at the ſame time taking particular care to keep the bowels free.

As amputation, before a ſeparation, by ſuppura-

puration, of the gangrenous parts from the ſound takes place *, is unanimouſly and juſtly condemned; we proceed to thoſe gangrenes that are the conſequence of lacerated, punctured, or gun-ſhot wounds, and can only offer the ſame general mode of treatment already propoſed, leaving it to the ſurgeon to vary it according as different indications occur: but I muſt remark, that I have ſometimes ſeen, after compound fractures, and ſome wounds of tendinous parts, at firſt not apparently very dangerous, and where no bad habit of body ſeemed to prevail, nor any extraordinary degree of inflammation, that after two, three, or four days, the patient will be ſeized with a ſhivering, ſucceeded by a fever, violent delirium, and the limb will be completely ſphacelated, ſometimes in leſs than twenty-four hours, and the patient will be rapidly taken off; nor is there any time given for the interpoſition of art †.

Thoſe gangrenes that proceed from long lying, critical metaſtaſes, &c. are tedious, and require a liberal uſe of the bark, with the elixir vitriol. acid. good air, &c. and great attention in point of cleanlineſs, correcting any pu-

* Vide Note IX. † Vide Note X.

trid ſmell, which may be obtained by expoſing the part to a fermenting mixture, fumigating it, as it were, with the extricated air. In thoſe gangrenes coming on old ulcers, where the diſcharge has been ſuppreſſed, along with the general method of treatment, finapiſms applied to the feet, or bliſters to the legs, thighs, or back, may be of advantage.

The remaining terminations of inflammation are, firſt, into a ſchirrhous, or indolent hardneſs of the part formerly inflamed. Secondly, by an effuſion of blood, or an exſudation of a kind of ſerofity, ſometimes purulent, as we find in cavities where any of the viſcera have been inflamed, elevating the cuticle into bliſters; or by adheſion, which is a frequent conſequence of thoſe inflammations which happen to membranous parts. But of thoſe terminations, hardly any, except that into a ſcirrhus, falls under the ſurgeon's direction; and this is ſo rare an occurrence, that we cannot, with any degree of propriety, conſider it as one way in which an inflammation may terminate; therefore we will paſs on to the conſideration of ulcers.

SECT.

SECT. V.

Of Ulcers.

ALL wounds, abſceſſes, or other ſores, that have reſiſted, for ſome time, the general methods of treatment commonly put in practice in ſuch caſes, are called ulcers, of which authors have made an unneceſſary number of diſtinctions; but the more important are into, firſt, ſcorbutic; ſecondly, ſcrophulous; thirdly, venereal; fourthly, carious; fifthly, cancerous; and ſixthly, fiſtulous. There are other ulcers which we cannot impute to the effect of any particular virus; as thoſe which proceed from a general bad habit of body, from the ſuppreſſion of ſome habitual evacuation; or from the acrimony of certain diſcharges, as thoſe that are the conſequence of the fluor albus, involuntary diſcharges of the urine or fæces, &c.

CAUSES.

The external cauſes often proceed from the mal-treatment of abſceſſes, or wounds, by the ſurgeon's imprudently cramming them with doſſils,

doſſils, loaded with warm digeſtives; or from the patient's imprudence in point of regimen, and uſing too much exerciſe, particularly if the ſore be ſituated in the inferior extremities.

The internal cauſes are characterized by the general ſymptoms of the diſeaſe, of which they are but an effect; as in thoſe ulcers ſurrounded with hard bluiſh lips, or thin and livid ones, ſoft, pale funguſes, ſubject to bleed, ſprouting up in them; the patient, at the ſame time, labouring under ſome or moſt of the general ſymptoms of the ſcurvy, as violent or livid ſpots ſcattered over the ſurface, looſe, putrid, ſwelled gums, which bleed on the ſlighteſt occaſion, bloated face, breath offenſive, wearineſs, cold ſwellings and pain in the extremities, ſwelled hypochondria, bad digeſtion, &c. Theſe ulcers may, with great propriety, be termed ſcorbutic.

Thoſe ulcers that proceed from the aperture of ſome indolent tumour, digeſting ill, and difficult to bring to ſuppuration, attended with an enlargement of the maxillary, parotid, and axillary glands, big belly in children, ſore eyes, and thick lips, particularly the upper, are termed ſcrophulous.

Can-

Cancerous ulcers are generally preceded by ſchirrous tumours, which, after burſting, diſcharge an acrid ichor, eroding the parts it touches; the lips turn out, and are elevated into frightful funguſes, which bleed on the leaſt occaſion, and often periodically; the ulcer is encircled with varicous veins, and ſpreads daily, attended with acute pain; the neighbouring glands enlarge and become ſchirrhous, and ſometimes burſt into new cancers.

Venereal ulcers are known from the patient's being infected with the diſeaſe, and attended with ſome of the general ſymptoms, as copper-coloured ſpots ſcattered up and down on the ſurface, particularly under the hair, and about the forehead; chancres on the glans penis, accompanied or preceded by a gonorrhea, ulcerated tonſils, buboes, nocturnal pains in the limbs and head, vertigoes, &c.

Ulcers attended with a caries of the bone, are not difficult to know, particularly if occupying the extremities, as the probe or finger will generally give us every information as to this point; for if we find the bone rough or enlarged, it puts the caſe out of doubt: thoſe ulcers are generally attended with a gleety, fetid,

fetid, or oily diſcharge, and pale, ſoft, ill-conditioned funguſes.

Fiſtulous ulcers, and thoſe that proceed from a general bad habit of body, are obvious; as are alſo thoſe that depend on the acrimony or ſuppreſſion of any habitual evacuations.

PROGNOSTIC

Is drawn from a previous conſideration of the importance of the part affected, the age, ſex, particular habit of body, and manner of living of the patient. Scorbutic ulcers will be liable to return, after the beſt method of treatment has been put in practice; as alſo will ſuch as depend on the ſuppreſſion of any accuſtomed evacuation, even ſhould we be tempted to heal them, which is ſeldom ſafe to do while the ſuppreſſion remains. Venereal ulcers are conſidered but as a ſymptom of the diſeaſe. Scrophulous, carious, and fiſtulous ulcers are tedious in their treatment; and often exhauſt the patient, or induce a very bad habit of body. But the event of that opprobrium chyrurgorum, cancerous ulcers, is moſt to be dreaded.

CURE.

The indiſcriminate adminiſtration of mercurials, in all caſes of ulcers, is an exceeding bad practice, although a very common one, and is in no inſtance productive of worſe conſequences than in thoſe putrid ulcers, the effect of a ſcorbutic habit of body, where the healthy craſſis of the humours is broke down, and they ſtrongly tend to a ſtate of putreſcency. In this caſe a free, open, dry air, a diet chiefly vegetable, the bark, with the vegetable acids, or the malt infuſion, keeping the bowels free by any of the neutral ſalts, and expoſing the ſore over fermenting mixtures, avoiding the dreſſing of it with any hot, acrid digeſtives, and only applying ſuch as are eaſy to the patient, are the means proper to be made uſe of.

If the ulcer does not digeſt, having foul, callous lips; inſtead of immediately trying, by local applications, to melt down the callofities, and bring the ulcer to a ſtate of digeſtion, we ſhould rather wait the effect of internal medicine, regimen, &c. When the ſore puts on a better appearance, and the patient's habit of body is mended, thoſe white callous lips may be, from time to time, pared with a biſtory,

and covered with a mercurial plaſter, which will expedite the cure. If the ulcer is in the leg, the wearing a laced ſtocking will contribute much to prevent any return; and often an iſſue and the cold bath may be ordered, with advantage, to fulfil the ſame purpoſe.

Ulcers which are attended with a dry ſcruff over the body, tetters, blotches, &c. although claſſed among the ſcorbutic, rather ſeem to proceed from ſome particular ſpecies of acrimony; they are generally of the callous, gleety kind, and require a different method of treatment; for mercurials, which in the real ſcurvy are never indicated, in this caſe are the beſt medicines we can adminiſter, and ſeldom fail of ſucceſs, if prudently given. Previous to their adminiſtration, we ſhould put the patient for ſome days on a ſoft, ſpare, diluting regimen, purging, at proper intervals, with any of the neutral ſalts; after which any of the following mercurial preparations may be given, along with the decoction of ſarſaparilla, Dr. Huxham's Ethiops antimonialis, or the mercurial pill, of either a drachm in twelve pills, one or two to be taken every night. Turbith mineral, to the quantity of a grain; or the ſolution made with corroſive ſublimate, ſublimed with double

double its weight of crude ſal ammoniac; which is one of the beſt medicines in all cutaneous foulneſs I ever yet knew; from one quart to two, or more of the decoction, may be uſed in twenty-four hours; if the patient is troubled with worms, we may ſubſtitute calomel, purging it off with powders of rhubarb, jalap, &c.

The local applications muſt neceſſarily vary according to the different appearances of the ulcer; but Goulard's cerate, the mercurial plaſter, or any mild digeſtive, are generally ſufficient to fulfill every indication. After the patient is well, he ſhould be purged as in the beginning; iſſues, if the ulcer were of long continuance, ſhould be opened, and a courſe of ſea-bathing, or the Lucan * Spa, adviſed.

Scrophulous ulcers, if the patient is under ſeven, require little beſides keeping them clean; bathing in the ſalt water, and drinking it at proper intervals, pulticing the indurated glands with ſea reck. If the diſcharge is great, and a reabſorption apprehended, a decoction of the

* A cold ſulphureous Spa, within four miles of Dublin, pretty ſimilar in its qualities to thoſe of Harrogate in England, and Moffet in Scotland, found to be extremely effectual in cutaneous foulneſſes.

bark, country air, goat's whey, may be ſubſtituted; as our entire attention ſhould be directed towards correcting the habit of body: the eaſieſt applications to the ſores will, in general, prove moſt beneficial; for as the patient advances towards an adult ſtate, and acquires a firmneſs of ſolids, the diſeaſe gradually ſubſides. The greateſt care ſhould be taken of thoſe children's diet, prohibiting every thing viſcid; as very often an error in this reſpect induces a ſcrophulous diſpoſition, as we experience in the children of the poor.

In adults labouring under theſe ulcers, we can have a greater recourſe to medicine. In thoſe patients we often find a chain of ſcrophulous tumours reaching down the neck to the clavicle, the axillary glands at the ſame time enlarged; ſuppurations in ſome of thoſe ſometimes take place; and often the patient is loſt by thoſe tumours preſſing on and ſtreightening up the œſophagus, ſo as to prevent his taking any food. Small doſes of calomel, or other mercurial alteratives, are generally adminiſtered in thoſe caſes, purging them off at proper intervals; and even ſalivation has been tried, but I have always experienced it to be

followed

followed by the worſt conſequences. The ſucceſs of all mercurials is here very precarious *; for, by the erithiſm they occaſion in the circulatory ſyſtem, they cauſe ſome of thoſe tumours to ſuppurate much ſooner than they otherwiſe would, and often encreaſe all the reſt: they materially injure the tonus of the chylopoetic viſcera, and tend to relax the general ſyſtem. If the diſeaſe be not far advanced, a prudent trial may be made with ſome of the milder mercurials, taking care not to perſiſt too long in the uſe of them; but I have ſeen the beſt effects from the extract of hemlock, given in larger quantities than uſually preſcribed, and continued for a longer time, joined with a decoction of the bark, if the diſcharge is great; it is peculiarly adapted to thoſe patients who have a huſky, dry cough, and pain in the breaſt, where there is every probability the bronchial glands, &c. are affected, and the ſalt water is prohibited; at the ſame time pultices and fomentations of the hemlock may be applied to the tumours.

* Vide Note xi.

CANCEROUS ULCERS,

Cancerous ulcers may be conſidered under two different points of view: firſt, thoſe which ſucceed to a ſchirrhous tumour; ſecondly, thoſe ariſing from warts, chaps, or ſuperficial ſores.

If the ſchirrhus has been a long time before it degenerated into a cancer, the patient young, and otherwiſe in good health, regular as to the menſtrual diſcharge if a woman, the ulcer not very painful, and has made but ſlow advances, we may reaſonably entertain hopes of ſucceſs. For that purpoſe we ſhould put the patient on a courſe of the extract of the juice of hemlock, giving it in as large quantities as can be taken; this, if continued a long time with patience, and a milk diet, I have known, in ſome inſtances, to ſucceed *. The ſore may be dreſſed with pledgits, ſpread with Goulard's liniment, cerate, or dipped in vegetal water; fomentations or pultices of hemlock occaſionally applied, or the carrot pultice. If the diſcharge be great and fetid, a decoction of the bark, with the effervescent draughts, may be given.

* Vide Note XII.

But

But where the cancer ſeizes the patient ſuddenly, as from a ſmall wart or ſore, or from a ſchirrus, ſoon after its appearance burſting, attended with inceſſant pain, quick in its progreſs, fetid, and ichorous in its diſcharge, with livid, fungous lips, the patient of a leaden, ſallow colour, nervous, and troubled with flying pains, &c. if a woman irregular, or after forty-five, though we have every thing to fear, inſtead of ſtupifying with opium, which, after its effects are over, makes the miſerable patients more ſenſible of their pain, and encreaſes the putrefactive diſpoſition of the cancer; recourſe ſhould be had to the means already mentioned *, by which we may at leaſt palliate the diſeaſe, and prolong the patient's life.

VENEREAL ULCERS.

Thoſe ulcers that reſiſt a mercurial courſe, generally are complicated with a caries of the bone, and by country air, a decoction of the bark, ſarſaparilla, or both, with a milk diet, an exfoliation ſucceeds; after which the ulcer

* The malt infuſion has, in thoſe caſes, been found to be ſerviceable.

generally cloſes. If there is any reaſon to ſuſpect the virus not to be entirely ſubdued, we may put the patient on a courſe of the ſolution of corroſive ſublimate, and decoction of ſarſaparilla.

CARIOUS AND FISTULOUS ULCERS.

In the cure of thoſe, particular attention muſt be had to the patient's age, ſex, and habit of body. In the young, if the diſcharge is not great, and the caries deeply ſeated, we had better leave the exfoliation to the care of nature, as it muſt neceſſarily be a work of time: but where the caries is in the extremities, &c. and we can come at the bone, an exfoliation will be expedited by making perforations * here and there with a gimblet, awl, or perforator of the trepan, or the trepan itſelf, if there is reaſon to apprehend matter to be lodged in the cavity of the bone. The decoctions of the woods, and mild mercurials, are uſually ordered; the uſe of the actual cautery is, with much reaſon, generally exploded.

* Vide Note XIII.

Thoſe

Thoſe ſimple fiſtulous ulcers, that are kept up by no bad habit of body, but remain after gun-ſhot wounds, or large abſceſſes, &c. where counter-openings have been made, and a ſeton uſed; if, on the patient's getting into the country, retrieving his fleſh, uſing the bark, they ſhould ſtill continue, and nothing counter-indicates, a ſimple diviſion will generally ſucceed, and a cure ſoon be perfected.

I muſt obſerve, that in all ulcers of the extremities, particular regard ſhould be had to the varicous veins, which generally attend them; for on ſuſtaining, by a proper bandage or laced ſtocking, their over-diſtended ſides, and even ſometimes opening them, our ſucceſs will much depend.

SECT.

SECT. VI.

Of Wounds in general.

IT would be entering into both an unneceſſary and too prolix a detail, to recapitulate the variety of diſtinctions to be found in ſurgical authors, as to the various circumſtances attending, and difference between, wounds in general; I make no doubt it will be deemed fully comprehenſive to divide them into ſimple, where the injury is confined to the common integuments, or to parts from which we have no reaſon to apprehend any bad conſequence; and into complicated, where, either from the ſtructure, ſituation, or greater or leſſer importance of the parts injured, or from the different circumſtances attending the inflicting the wound, ſymptoms proportionably dangerous may be reaſonably expected.

But as all wounds are attended with ſome common ſymptoms, it will be neceſſary, before we enter into any particular enquiry, briefly to conſider them, firſt as ſucceeding to a large wound of the common integuments and fleſhy parts,

parts, in a perſon of no vitiated habit of body, and ſhew the different changes ſuch a wound will undergo in its progreſs to healing at the four following periods, viz. Firſt, inflammation. Secondly, ſuppuration. Thirdly, incarnation. Fourthly, cicatrization.

The firſt effects we perceive from ſuch a wound is an effuſion of more or leſs blood, and a retraction of the parts divided. If no conſiderable artery is injured, the bleeding ſoon ſtops, by the arteries contracting within the lips of the wound, and whatever extravaſated blood reſts in it, coagulates, and forms, with any dreſſings applied, a ſort of bloody cruſt; but ſoon after, from the diviſion of the various veſſels, and irritation of the nervous filaments, an influx of fluids will be rapidly driven into the ſurrounding cellular and adipous membrane, by which the lips of the wound and adjacent parts become equally tumid, tenſe, and painful, from the reiterated impulſes of the fluids towards the centre of the diviſion, diſtending and diſtracting the ſides of the different ſeries of veſſels; the cellular and adipous membrane will be protruded and elevated into a ſort of tumour in the wound, whoſe lips will be now retorted, and the bottom ſeem raiſed; the

the ſurrounding ſkin will appear to make a tight ſtricture on thoſe tumid parts. This ſtate of the wound will be attended with redneſs, heat, pain, pulſation, a bloody ſerous diſcharge, and the local and general ſymptoms of inflammation ſtrongly characterized.

Thoſe ſymptoms will continue, attended with a more or leſs degree of fever, until, generally about the third or fourth day, a ſuppuration is formed in the cellular and adipous membrane, and which will be in proportion to the preceding tumefaction and extent of the wound. The diſtended veſſels now become unloaded, the tumid, cellular, and adipous membrane diſſolves into pus, and the inflammatory ſymptoms, vulnerary fever, &c. will conſequently, in a great meaſure, ſubſide. In this ſtate the wound is ſaid to be in ſuppuration.

After this period the wound diſcharges daily a more or leſs quantity of matter, its lips proportionably ſubſiding; and this diſcharge continues until ſuch parts of the cellular and adipous membrane, as are much injured, will be flung off in ſloughs, or melted into pus, the diſtended veſſels entirely unloaded, and the wound becomes uniformly florid, moiſt, and perſpirable.

Here

Here begins what is generally termed the ſtate of incarnation, in which it was imagined a new production of arteries, veins, nerves, &c. particularly in wounds with deperdition of ſubſtance, takes place, in order to form a ſubſtance ſimilar to the loſt fleſh; but it might be eaſily proved that no ſuch incarnation is ever formed, and that it is the effect of the ſuppuration in the cellular and adipous membranes, by which the lips of the wound are proportionably leſſened, and ſubſide, and of conſequence, its cavity diminiſhes, and it daily contracts every way. Here a regeneration of fleſh, formed by a dilatation and extenſion of the divided veſſels, far from being a favourable circumſtance to the healing of a wound, would powerfully oppoſe it, this event depending on an oppoſite cauſe. The floridneſs of the wound at this ſtate, and its ſhooting out, in appearance, fleſhy tubercles or funguſes, depend on the more or leſs inflammatory diſpoſition of its veſſels, ſomewhat ſimilar to what we frequently ſee happen in inflammations of the eye, where the inflammatory extenſion of the veſſels of the tunica conjunctiva ſeems to form large funguſes.

We

We are now come to the fourth and laſt period, which is cicatrization. The lips of the wound having, by the effect of the preceding ſuppuration, ſunk to a level with the bottom, the ſkin being extended as far as poſſible towards the centre of the diviſion, and the diſcharge greatly diminiſhed, the cicatrix begins to form by the cellular membrane, and the extremities of the ſmall ſeries of veſſels, between which a fine gluten is interpoſed, beginning to dry round the edges of the extended ſkin, of which it becomes a continuation, and proceeding gradually, in general, from the circumference to the centre, leaving a cavity proportioned, for the moſt part, to the loſs of ſubſtance in the wound. But the progreſs, through theſe four periods, which wounds undergo to their cicatrization, will be materially changed by their being combined with any of the ſubſequent accidents.

Firſt, if an hæmorrhage ſucceeds from the puncture or diviſion of ſome conſiderable blood-veſſel. Secondly, if any of the tenſe nerves, membranes, or ligaments are injured, or articular cavities laid open. Thirdly, if the wound is contuſed and lacerated, or made by the bite of an enraged or mad animal. Fourthly, if

any

any extraneous ſubſtance is lodged in the wound. Fifthly, if the patient is of any particular bad habit of body. It is from the number and complication of theſe accidents, the prognoſtic of wounds, in general, is drawn.

PROGNOSTIC.

There is no accident more ſtrikingly alarming than a large diſcharge of blood from a wound, as this muſt ariſe from the diviſion of ſome large blood-veſſel; but notwithſtanding, if the ſurgeon is near at hand, the artery not one of the more capital trunks, and ſituated ſo that we can make uſe of the ligature, there is none leſs productive, in general, of any ſucceeding ill conſequence. It is not ſo in wounds where any of the tenſe nerves, membranes, tendons, or their expanſions, ligaments, &c. are injured; for thoſe caſes are ever attended with a train of inflammatory and nervous ſymptoms, more or leſs acute in proportion to the extent of the injury done thoſe parts; they ſeldom or ever ſuppurate favourably, and the inflammatory tenſion of the ſurrounding parts too often terminates in different collections of matter, to give exit to which, we are obliged frequently to

to have recourſe to repeated inciſions. If the patient recovers, very often the functions of the parts affected are either greatly impaired or loſt.

All thoſe ſymptoms we generally experience in their full force, where articular cavities are laid open, with this additional one, which more frequently happens in thoſe caſes, viz. dangerous abſorptions of matter, which are often tranſlated to ſome of the more important viſcera; or, falling on the nervous ſyſtem, excite a variety of dreadful ſymptoms, which too frequently terminate only with the life of the patient.

Contuſed and lacerated wounds, in which rank thoſe cauſed by gun-ſhot are juſtly placed, are not only liable to all the ſymptoms already mentioned, but to large ſuppurations, in proportion to the concuſſion, contuſion, and laceration of the parts; for ſuch muſt be flung off in ſloughs. Thoſe made by the bite of an enraged or mad animal require the utmoſt attention; particularly the laſt, where the patient is ſo liable to that dreadful conſequence, the hydrophobia.

While any extraneous ſubſtances reſt in the wound, the conſtant irritation it occaſions keeps

keeps up the inflammation of the ſurrounding parts, and is productive of large ill-conditioned ſuppurations. The patient, at the ſame time, labouring under any particular bad habit of body, muſt neceſſarily render the event of all wounds, attended with any of thoſe different circumſtances, much more precarious.

CURE.

The treatment of ſimple inciſed wounds, where the integuments are only ſlightly divided, requires, in general, little elſe than ſuſtaining the lips in contact, by means of ſlips of ſticking-plaſter, bandage, &c. and a favourable ſituation of the part; nature, by means of a nutritious gluten, cements them, often in four or five days, without any inflammation or ſuppuration of moment intervening; but where not only the integuments, but alſo the muſcles are divided, the retractive force, by which the lips of the wound are drawn from each other, is conſiderably increaſed, and the retaining them in contact becomes a matter of ſome difficulty; to effect which, has excited the ingenuity of ſurgeons to invent different kinds of ſutures: many of them, with great propriety,

are either looked on as obſolete, or are juſtly proſcribed, and the uſe of the reſt much reſtricted.

We find two cauſes conduce to the retraction of the lips of a wound: Firſt, the natural elaſticity of the integuments. Secondly, that contractility with which all muſcular fibres are endowed. The firſt, what is called the dry ſuture-bandage, and ſituation, will, in general, ſufficiently counteract. The ſecond only can juſtify the uſe of the needle. If we ſuppoſe any of the muſcles to be tranſverſly cut, the effect which follows will be, that the divided parts will be oppoſitely retracted, one towards its origin, the other towards its inſertion, where this retractive force lies, and not in the lips of the wound; and it is here our endeavours ſhould be employed to counteract this contractility of the muſcular fibres, which the conſtant irritation of ſutures does but encreaſe; beſides, they are painful in making, and the ligatures we leave muſt be conſidered as foreign ſubſtances, which often, in counteracting the retraction of the divided parts, cut through, and are ever productive of more or leſs inflammation and ſuppuration, circumſtances totally op-

oppoſite to our intention of expediting the cure by making uſe of them.

However, if a caſe ſhould offer, where it appears to the ſurgeon that the dry ſuture, uniting bandage, and ſituation, are inſufficient to keep the lips of the wound in contact, and that he has recourſe to the interrupted ſuture as a ſurer means to anſwer his intention, the manner of making it is ſimply this:

Take a crooked needle, of a ſize proportioned to the depth of the wound, threaded with a a flat, waxed ligature, and having previouſly cleared the wound from grumous blood, &c. let the lips be brought into contact by an aſſiſtant; paſs your needle at a proper diſtance from the edges, ſo as to ſecure a good hold to the ſtitches, and prevent their cutting through; you muſt carry it to the bottom, and out at the lip oppoſite to that in which you entered it. In this manner you make what number of ſtitches you think proper; if many, we begin generally to tie the middle one firſt by a ſingle knot, and a ſlip one over, but not drawn too tight. While you are tying the ligatures, let the lips of the wound be ſupported in contact. The dry ſuture, uniting bandage, and a relaxed ſituation of the parts, will be abſolutely

neceſſary to obviate the danger of the ligature's cutting through. If no accident intervenes, we ſhould defer opening the dreſſings for three or four days; but if great pain, inflammation, &c. ſucceed, we had much better cut the ſtitches, as a ſuppuration will be unavoidable, and truſt the event to the means already propoſed.

It is no uncommon circumſtance to happen, where ſutures have been employed, that, though the wound at the ſurface ſeems united, matter will be formed at the bottom, under the ligatures; in this caſe, before we have recourſe to opening the whole tragit of the wound, we ſhould endeavour to give the matter exit at one of the extremities, which may prevent much future trouble. After the wound is united, you withdraw the ligatures, taking care not to let them lie too long in the wound; if they are taken out one by one, you may begin earlier than if all at once; the dry ſuture ſhould be continued two or three days longer as a ſecurity.

If any conſiderable artery is opened, our firſt intention ſhould be to reſtrain the hæmorrhage; this is fulfilled either by the ligature, dry lint, ſponge, or agaric, aſſiſted with a proper degree of compreſſion. If we employ the ligature, we expe-

expeditiouſly ſtop the bleeding, are generally ſecure from any future return, and may after ſupport the lips of the wound nearly in contact; but if we uſe lint, agaric, &c. we are obliged to cram the wound with thoſe ſubſtances, uſe compreſſes and a tight bandage, and after all, the hæmorrhage will be extremely liable repeatedly to return. If the artery can be eaſily come at, I think the patient will ſuffer much leſs by taking it up, by which we, in a great meaſure, avoid the inflammation, and perhaps a tedious ſuppuration, which will be a certain attendant on the latter method.

In all wounds of tenſe, membranous, ligamentous, or nervous parts, where the articular cavities are laid open, our utmoſt attention ſhould be directed to obviate the dangerous conſequences of the inflammatory ſymptoms, which we have every reaſon to apprehend will ſucceed. Bleeding, gentle purging, and the antiphlogiſtics, ſhould be ſtrongly enforced, in proportion to the patient's ſtrength and acuteneſs of the ſymptoms. Emollient fomentations and cataplaſms, as the linſeed pultice, the ſofteſt and eaſieſt dreſſings, with a prudent uſe of opiates, particularly at night, or according to the degree the nervous ſyſtem

may be affected, will be abſolutely neceſſary. If the wound is made by puncture, very often a free dilatation of the parts will procure a ceſſation of the moſt alarming ſymptoms. After the inflammatory diatheſis is on the decline, and the ſuppuration is formed, the bark may, with advantage, be adminiſtered.

If the articular cavities are laid open, the ſuppuration has been formed, and the inflammatory ſymptoms on the decline, and unexpectedly the diſcharge leſſens, becomes thin, and the wound pale and flabby, the patient looks ill, has a ſmall quick pulſe, tongue dry, and is invaded with irregular ſhiverings, we may juſtly apprehend a dangerous abſorption of matter into the circulation, and ſhould loſe no time to obviate its bad effects. The bark ſhould be given in as large quantities as the patient's ſtomach will bear it, and the effervescent draughts adminiſtered from time to time; his drink ſhould be of the antiſeptic kind; bliſters ſhould be applied, and, in ſhort, every method put in practice to hinder the matter from being tranſlated to the nobler parts, and to determine it to thoſe where art can be of aſſiſtance. We ſhould be extremely attentive to examine, from time to time, if there

there is any collection of matter formed any where near the parts affected, and if there is, to be ſure to give it immediate exit *.

The treatment of gun-ſhot wounds differs little from the method we have already ſet down. Extraneous ſubſtances ought, in general, immediately to be extracted, which will be done with greater facility by freely dilating the wound †; but if, when called, the parts are in a high degree of tenſion, and quite irritable, it will be improper, until a ſuppuration takes place, to attempt removing them. The ſofteſt cataplaſms and moſt emollient fomentations, &c. ſhould be applied, and the bark freely given, when the ſuppuration is formed, and the inflammatory ſymptoms ſubſide.

If at any period of a wound that nervous affection, a locked jaw, ſhould ſeize the patient, we muſt have immediate recourſe to large and repeated doſes of opium, and frequent uſe of the warm bath; the tinct. the-

* Vide Note XIV.

† Gun-ſhot wounds, in general, ſhould be freely dilated, both at the entrance and exit of the ball. Mr. de la Martiniere prefers compreſſes wrung out of ſea-water to all other topical applications; and ſtrongly contends for the utility of ſetons, introduced through the tragit of the wound.

baic. with Huxham's antimonial wine, may anſwer beſt. The neck and belly, which are often ſtiff and tenſe, ſhould be embrocated with the camphorated liniment, to which ſome tinct. thebaic. may be added; emollient clyſters ſhould be given as occaſion may require; and notwithſtanding the irritation attendant on bliſters, they may, with advantage, be applied to the legs, back, &c.

Notwithſtanding the number of pretended ſpecifics adminiſtered, in order to prevent or relieve the fatal conſequences ariſing from the bite of a mad animal, it is melancholy to find how fallacious they all generally prove; for the apparent good effects attributed to them, in preventing a hydrophobia, often ariſe from the confidence the patient has in the medicine, by which the mind is quieted, and the dreadful apprehenſions of the conſequence ſubſide; and much more frequently from the animal's not being really mad: for we find that all thoſe boaſted ſpecifics prove ineffectual when once the patients are ſeized with the ſymptoms of the hydrophobia *. It is judiciouſly remarked by a celebrated phyſician †, that we ſhould have an attention, in thoſe caſes, particularly

* Vide Note xv. † Dr. Fothergill.

to

to enquire what part was bit, and through what kind of covering; as in a bite through thick garments, or leather, the animal's teeth would be wiped clear from the venom, and ought to give leſs uneaſineſs than when it happens to the naked ſkin; and by no means to kill the animal until it is paſt a doubt whether it is mad or not.

If we are called to a patient who has been recently bit, our firſt attention ſhould be to waſh and cleanſe the wound from the poiſonous ſlaver, as expeditiouſly as can be, and to enlarge it freely by the knife or actual cautery; or what may be productive of more ſucceſs, if it is practicable, to cut out the piece; after which to promote the diſcharge as long as poſſible. Mercurial frictions are generally employed, ſo as to keep up a gentle ſalivation for three or four weeks; but our chief dependance ſhould reſt on keeping up the diſcharge from the wound, which ſhould by no means be let to heal for a conſiderable length of time. If, unfortunately, any ſymptoms of the hydrophobia appear, the deſperate ſituation of the patient ſhould not deter us from attempting to relieve him. Some blood may be taken from his arm, if the ſtate of his pulſe

ſeems to require it; clyſters of milk and water, &c. ſhould be frequently adminiſtered: cinnabar combined with muſk, mercurial frictions; vin. antimon. Huxham. and tinct. thebaic, where great reſtleſſneſs prevails; or the extract. thebaic. in pills, may be occaſionally given, and the warm bath frequently uſed. I ſhould imagine, that if the part bit were healed, laying it open by the knife or cautery might be found uſeful.

In the cure of all wounds the ſurgeon ſhould particularly attend to the patient's habit of body, and uſual courſe of life, as they will direct him in preſcribing a ſuitable regimen, and regulating the reſt of the non-naturals, matters of the utmoſt conſequence in the treatment of all wounds.

NOTES

NOTES
AND
ILLUSTRATIONS.

NOTE I.

PREFACE, (*)

THERE appears ſo much candour and ſimplicity in his manner of relating why he adopted a contrary method of treating gun-ſhot wounds to that which then prevailed, that I thought it might ſatisfy curioſity to give it here, tranſlated from his own words. He ſays, I had not as yet ſeen the method of applying the firſt dreſſing to gun-ſhot wounds; it is true, I had read in John of Vigo, that gun-ſhot wounds were poiſonous, on account of the powder; and for their cure he ordered them to be cauterized with oil of elder boiling hot, with which ſhould be mixed a little theriaca;

riaca; and that I might not be miſtaken in the manner of uſing the ſaid oil, knowing that it would give the patient extreme pain, I had a mind, before I applied it, to ſee how the other ſurgeons did at the firſt dreſſing, which was to apply the ſaid oil as boiling hot as poſſible to the wound with tents and ſetons; ſo I took the courage to do as they did. At laſt my oil was out, and I was obliged to apply in its place a digeſtive made of the yolk of an egg, oil of roſes, and turpentine. I could not well ſleep all night, fearing that, through the want of cauterizing, I ſhould find thoſe wounded, to whom I did not apply the oil, dead, poiſoned, which made me viſit them in the morning very early; when, bepond my expectation, I found thoſe to whom I applied the digeſtive feel leſs pain, and their wounds without inflammation or tumour, having ſlept tolerably well during the night. The others, to whom the ſaid boiling oil was applied, I found feveriſh, with great pain and tumour about their wounds. From thence I reſolved never more ſo cruelly to burn the poor gun-ſhot wounded patients. Vide his works in fol. p. 1198.

NOTE

NOTE II.

Sect. I. p. 17. (†)

MR. Haller, in examining the circulation in the meſentery of a live frog, has found, as he ſays, that "oſcillation is almoſt the conſtant effect of the abatement of the motion of the capillary arteries. In this ſtate the blood goes and comes, and it alternately follows its natural courſe, and retrogrades again towards the heart; this fluctuation is very ſingular in the places where the artery is divided: ſometimes the blood of one of the branches preſents in flowing back an obſtacle to that of the trunk, which, having a ſuperior force, drives it into its own branch, or into another; from whence it flows back again after ſome moment's repoſe: at other times one of the branches poſſeſſing a ſuperior force, cauſes the blood to flow back into the other through the trunk, or drives it towards the heart by the ſame trunk.

"But a finer ſight ſtill is that which the veins exhibit, communicating with each other, and in which the blood is ſeen to move in all poſſible directions.

directions. From a vein ſeated on the right, it paſſes through a communicating trunk placed more to the left, and the reſiſtance it meets there cauſes an oſcillation. After that oſcillation it deſcends by this trunk on the left towards the inteſtines, or elſe it retakes its courſe by the communicating trunk in the middle. Sometimes on coming out of that veſſel it returns into its natural direction, and runs towards the heart; at other times it retrogrades below the inſertion of the veſſel of communication. It happens ſtill that the motion beginning by a trunk on the right near the inteſtines, the blood by anaſtomoſis paſſes into a trunk placed on the left; from whence it retakes its courſe, ſometimes towards the heart, and ſometimes downwards towards the inteſtines; or elſe it continues to move in its trunk towards the heart, following the ordinary laws of circulation. Laſtly, we ſee at the ſame time, and in the ſame venous trunk, the blood that returns from a branch divide and flow towards the heart, and partly towards the inteſtines". Vide Mem. ſur le Mouvement du Sang.

NOTE

NOTE III.

SECT. II. p. 21. (*)

DR. Cullen judiciouſly remarks, that in the phlegmon, the inflammation ſeems to affect eſpecially the veſſels on the internal ſurface of the ſkin, communicating with the lax ſubjacent cellular texture, whence a more copious effuſion, and that too of ſerum convertible into pus, takes place. In the erythema, the affection is of the veſſels on the external ſurface of the ſkin communicating with the rete mucoſum, which does not admit of any effuſion, but what ſeparates the cuticle and gives occaſion to the formation of a bliſter, while the ſmaller ſize of the veſſels admits only of the effuſion of a thin fluid, very ſeldom convertible into pus. Vide firſt Lin. of the Pract. of Phyſ. p. 215.

NOTE IV.

SECT. II. p. 35. (*)

I HAVE met with, in the Memoirs of the Royal Academy of Sciences at Stockholm, a ſenſible memoir on opening critical tumours, by a Mr. Acrell, which would ſeem to diſprove this general axiom; but it muſt be conſidered, that thoſe caſes which terminated ſo unfortunately, occurred in a crouded hoſpital, where, from the foulneſs of the air, and ſeveral other concurring circumſtances, the event muſt ever be extremely precarious, even after opening any large collections of matter. The following is an abſtract of it.

In July, Auguſt, and September, in the year 1743, a violent putrid fever raged in that part of the French army which returned from the expedition into Bohemia and Bavaria. It had been preceded by a very ſevere winter, a tertian fever in the ſpring, want of proviſions in ſummer, bad attendance, and continual fatigue. No ſooner had they reached the frontiers of France, and were come to a ſtate of reſt, tranquility, and good attendance in the camp-hoſpitals,

tals, but ſwellings ſhewed themſelves behind their ears, under their arms, and in other parts: and apparently with a very good effect towards their recovery. To accelerate the excretions, I at firſt treated all in the hoſpital, under my care, according to the common method, promoting the tumours, opening them when ripe, and cleanſing and evacuating them. But all that was done by the firſt opening was only the diſcharge of the pus; moſt of them dying betwixt the fourth and eighth day after the opening. This miſcarriage with ſuch a multitude of patients gave me an infinite concern, that I determined to deviate from the common courſe of practice.

1. I obſerved, that before the appearance of theſe ſwellings the patients had all the ſymptoms incident to ſuch fevers. 2. That as theſe ſwellings appeared and increaſed, the ſymptoms diminiſhed. 3. That when they were quite ripe, and fit to be opened, the patients found themſelves beſt. 4. Upon being opened the patients relapſed, the ſymptoms returned, and moſt of them died within eight days after. 5. If the tumours were left unopened for a whole week, the patients found no manner of inconveniency from them. 6. Among the num-

ber of patients this month, above a thouſand had ſwellings, which, notwithſtanding the application of ſuppuratives immediately after their appearance, and though with a fluctuation of matter, yet diſperſed; the patients ſoon after had a looſeneſs, with a mixture of pus in their fæces, their ſaliva was phlegmatic, at their noſtrils they voided a ſanious matter, and they got ſafely over the diſeaſe. 7. That the opened tumours ſooneſt dried up, which was followed by a violent burning. 8. That in thoſe who had ſuch ſwellings, and, inſtead of attendance, had been continually carried in the waggons, the matter had diſtributed itſelf, and the cuticula ſubſided. Theſe alſo recovered, but not perfectly; being a long time after ſubject to ailments, and chiefly the phthyſic.

Theſe obſervations convinced me that the vital powers ſecreted the morbid humours through the above-mentioned tubercles, and carried them to the glands near the ears, armpits, and other parts, where they ſtagnated, diſſolving the ends of the veins, and the pinguinous veſſicles thereabouts, into a liquid pus, which afterwards, by the mere impulſe of nature, were conveyed to the ſecretory veſſels or glands in the noſe, gums, throat, and inteſtines; but

but in moſt, as the event manifeſted, by no means ſuffered the external air to mix with the pus in the opened tumours. My inference was, that no ſwelling of this kind was to be opened, but entirely left to the vital powers, ſupported by a generous aliment, to ſeparate and ripen the pus, without any aid of ſuppuratives, or without cathartics to arreſt their progreſs. Upon their growing ripe for opening, I immediately began to purge the patients with a potion of rhubarb, Calabrian manna, and Epſom ſalts: I carefully attended to its effect, and found, after the ſecond or third purge, the diſcharges by ſtool to conſiſt of a purulent ſlime. This proceſs, contrary to expectation, ſtrengthened the patient, the pus decreaſed, the ſwellings gradually diſappeared, and the far greateſt number recovered.

NOTE V.

SECT. II. p. 35. (†)

OF the many caſes of this kind I have ſeen terminate fatally, and where ſcarification certainly precipitated the parts into a ſtate of mortification, I ſhall here mention the following.

January the 16th, 1776.

A man aged thirty-ſix was received into the hoſpital: he had a cough and an aſthmatic affection as long as he remembered. He was a hard drinker of ſpirits. Two months before, he got a cold; a great difficulty of breathing ſucceeded, and he became all over anaſarcous. His legs, which were extremely ſwelled, red, and tenſe, were ſcarified by a ſurgeon, two days before he came in. On examination, I found he had made the ſcarifications more than half an inch long. His right foot was completely gangrened, and a large mortified ſlough covered the left. The man breathed with great difficulty, and made but very little urine. Pills of ſoap, gum ammoniac, and vitriolated tartar, were ordered him, with the infuſ. amar. and ſpirit. nitr. dulcis; antiſeptic fomentations were applied to his legs, and the ſtrong-beer pultice. He had no favourable change, and died the 25th. Before he died, the ſtench from his legs, which were completely mortified, was inſupportable.

In anaſarcous ſwellings, that are generally throughout the body, where the thighs, ſcrotum and legs, are often prodigiouſly enlarged, punctures made tranſverſely frequently ſucceed extremely

extremely well in unloading the cellular ſyſtem, provided the legs have no painful inflammatory tenſion.

NOTE VI.

SECT. III. p. 47. (*)

THE following is a fatal inſtance of the great danger in deferring too long the opening collections of matter, the conſequence of fevers.

November, 1777.

I was ſent for to Thomas-ſtreet, to ſee a Mrs. ———, aged twenty-eight. She had been brought to bed about three weeks and ſome days. The account I had of her caſe was as follows: ſhe came five weeks before her time, had a ſhedding for three days before her delivery, which was effected by turning the child. Two days after ſhe took a pain in her right leg, which after fixed in her knee, accompanied with a rapid miliary fever. There were three gentlemen of the faculty attended her in the beginning: her lungs ſeeming to them much engaged, they bled her, bliſtered her on the back, and after on the knee. I believe it was in the fourth week of her illneſs

I firſt ſaw her, along with a phyſician of eminence; and her ſituation appeared to me as follows:

She had a rapid light pulſe, a hectic look, was generally ſweating, and ſome days purging; for three days before we ſaw her, ſhe had irregular ſhiverings, followed by an exacerbation of the fever; ſhe had a troubleſome cough, but ſpit up nothing but a frothy mucus. On examining the knee I found it vaſtly enlarged, and painful to the touch; the leg and foot œdematous. On touching a little above the patella I found a ſenſible fluctuation, which ſeemed to lie deep.

In conſultation, I propoſed inſtantly making an inciſion to give exit to the matter; but to this the doctor objected, ſaying, that to him the fluctuation was by no means perceptible; that the touch was very fallacious; and that he had ſeen tumours about the articulations opened, and no matter follow. His advice was, to apply the bread and milk pultice, adminiſter a paregoric at night, and wait the event for ſome time. I own I reluctantly acquieſced, as the woman laboured under the ſymptoms of a reabſorption of matter; and that, notwithſtanding the touch is fallacious, yet when corroborated

roborated by the above ſymptoms, and the woman's alarming ſituation, a ſmall inciſion, if even we were miſtaken, would have been certainly prudent, as it would not interfere with the articulation, and could not be productive of any extraordinary degree of danger. However, the doctor was poſitive, and his mode of treatment adopted. The woman rapidly loſt ground every day, and all her ſymptoms increaſed.

At the end of fifteen days, from the time of our attendance, when the woman ſeemed really near exhauſted, I believe he perceived he was wrong, and conſented to my opening the tumour at its moſt prominent part, which was interiorly, and a little above the right knee. On the inciſion's being made, an amazing quantity of matter was diſcharged; and having ſufficiently extended the inciſion, I found the matter had detached the muſcles all round from the crureus. Having dreſſed her lightly up, I ordered her a ſtrong decoction of the bark, dreſſed her twice a day, and at every dreſſing there was a great diſcharge. After ſome days I ordered her the bark in powder, with a little powder of cinnamon, to be taken in the decoction, or claret, or in both.

Jellies, Seltzer water, effervescent draughts, and every thing that would quiet, or fit on her stomach, was tried; but still the hectic heats, sweats, &c. kept up, and no appetite.

About ten days from the first incision, a large collection of matter formed interiorly, where we take off a leg, to which I gave sufficient exit. The leg and foot were vastly œdematous. She still continued, since I first saw her, to get forty drops of tinct. thebaic. in a draught every night. The knee continued, on the least motion, excessively painful, and the discharge great, and generally oily, and she perceived the bones greet. She became weaker every day; and three days before she died she was seized with severe irregular shiverings, colliquative sweats, purging, a bilious puking, and scarcely could retain any thing on her stomach. Her senses were generally perfect; and she died to the last degree exhausted, at the latter end of the seventh week from the time of her delivery.

Through the whole of this poor woman's case we can perceive a series of mistakes; for in miliary fevers succeeding child-bed, we have seldom occasion to have recourse to bleeding, or can do it without the utmost hazard to the

patient's

patient's life. If this, in general, holds good, here, where the woman ſuſtained a great hæmorrhage before delivery, its good effects muſt be extremely doubtful. That inquietude and anxiety about the præcordia, too often miſtaken for peripneumonic ſymptoms, are the conſtant attendants on eruptive fevers, and we ſhould be very attentive to diſtinguiſh. At the latter end of thoſe fevers, depoſitions of matter are often thrown on the extremities, and generally near the articulations, often unattended with that previous degree of inflammation correſponding to ſuch a quantity of matter; and we ſhould be careful to give it immediate exit.

In this caſe the woman laboured, ſome days before I firſt ſaw her, under the ſymptoms of a re-abſorption of matter, which nature threw off to put a favourable termination to the diſeaſe. It was an unpardonable miſtake to oppoſe my letting it out; for white ſwellings of the knee, which the doctor alledged to have ſeen opened with very bad conſequences, and critical tranſlations about it, are quite different: the firſt requires deliberation; the ſecond admits of no delay. I have ſtrong reaſons to incline me to believe, that, had the matter been

been let out on our firſt ſeeing her, ſhe would have recovered; and its not being done until, by its continual re-abſorption, it broke down the craſſis of her humours, and in all appearance deſtroyed the capſule of the joint, and got under the patella, which articulation became carious, left no reſource but amputation, which ſhe would not hear of, and which, every thing conſidered, would, in all probability, have proved unſucceſsful.

I ſhall here add the two following caſes: the firſt preſents a rare inſtance of a tranſlation of matter, in conſequence of a pleuriſy; the ſecond ſhews, that from inciſions, which are but juſt ſufficient to give free exit to the matter, we may procure every advantage to the patient, and reaſonably expect a ſuperior degree of ſucceſs.

May the 27th, 1776.

George Smith, aged between thirty and forty, a ſtrong man, was brought to the hoſpital, apparently dying. The account his friends gave me of his diſorder was as follows; that, three weeks before, he was ſeized with a pleuriſy, the pain entirely in his right ſide. He was bled ſeven times, purged, &c. ſeemed to recover, and got up at the end of a week, when he took a purging, attended with a teneſmus;

neſmus; he had all along a difficulty of breathing: there now appeared a vaſt enlargement of the left ſide of the ſcrotum, and as he had an hernia ever ſince he remembered; thoſe who attended him imputed the ſwelling to it. He continued ſo until the time he came to the hoſpital.

The man now ſeemed to me to be dying; but being extremely deſirous of having ſomething done for him, I made an inciſion the whole length of the tumour, and let out a great deal of thin matter, and a coiled-up piece of cellular membrane, reſembling the teſticle: the matter lay in the tunica vaginalis teſtis, and the hernial ſack appeared above. He got no relief by the operation, his difficulty of breathing increaſed, and he died next day perfectly in his ſenſes.

DISSECTION.

On opening the thorax, in the right cavity was, I am ſure, between two and three pints of matter, which ſeemed to diſſolve the greater part of the right lobe of the lungs, the ragged remains of which adhered firmly to the pleura; the

the left was not engaged. The heart was pale, ſoft, and empty. On examining the ſcrotum, I found the pus had been collected in the tunica vaginalis teſtis, and the teſticle extremely ſmall. The hernial ſack was ſmooth and poliſhed, and conſiderably thickened, and adhered to the tunica vaginalis of the ſpermatic chord, and round about; no part of the inteſtine or omentum was in it, but the firſt appeared at the ring, which was extremely dilated and thin.

Charles Tyrrel, aged twenty-three, a robuſt, healthy man, from ſuffering much by fiſhing at ſea, was ſeized with a ſevere fever, and had no medical aſſiſtance for ſixteen days; at the end of which time there ſuddenly appeared a large tumour round his left thigh, ſtretching up the buttock: it was lanced, but not ſufficient exit given to the matter,

The next day, January the 2d, 1775, he was carried to the hoſpital; I found him much emaciated, a quick, ſmall pulſe. On examining his thigh, ſomething like a torn placenta appeared at the orifice: I put my finger in, and found all that ſide up to the buttock hollow. I immediately dilated up and down ſufficiently,

ſufficiently, ſo as to give free exit to the matter; and extracted a great deal of that ſubſtance, which ſeemed to be the cellular membrane putrid, and a quantity of ichor. There was another abſceſs under the rectus near the patella, which I opened, and found ſome laudable matter in it. He took two drachms of the bark every two hours in port, and had broth, &c. allowed him.

Next day his pulſe was not ſo quick; he was much better. The ſanies was waſhed out of that great cavity with an injection of barley-water and honey.

The 6th the right knee was much enlarged, and very painful; and throughout the joint, which was vaſtly diſtended, there was a manifeſt fluctuation. As I apprehended it to be a collection of acrid ſinovia, in too great a quantity to be abſorbed, I punctured it with a lancet laterally and ſuperiorly, and evacuated near half a pint of the ſinovia, partly thin, and partly in lumps, like jelly, of a purulent caſt. I applied thick compreſſes dipped in Goulard's vegetal water, and rolled up the knee with the figure-of-eight bandage.

Next day, the 7th, he was better, and the knee ſeemed perfectly well, and moved without

out pain: the dreſſing was renewed; the thigh of the other ſide better; the diſcharge leſs, and more purulent; he ſlept tolerably well, and took nouriſhment; his pulſe, though very quick, was yet fuller. The bark, &c. was continued. The 8th, no change.

The 9th, reſted but badly, and ſeemed weaker, and his pulſe much ſmaller and quicker. I dilated up to the buttock, as the matter reſted there. His medicines not changed. The 10th and 11th, his pulſe much better, and the diſcharge leſs. The 12th ſtill better, and ſlept tolerably at night; little or no diſcharge from the thigh; and of the knee no complaint, or fulneſs. No change in the treatment. The 13th, no change, except his pulſe a little quicker. The 14th, 15th, and 16th, growing better; the diſcharge very little, and getting ſtrength every day, and the knee very well, but weak.

The 31ſt, the inciſion was near being cicatrized, and he able to get up, and getting fleſh. He left the hoſpital the 23d of February, having very little weakneſs or ſtiffneſs in the knee, but was getting forward every day, and became quite well.

Of

Of the caſes that fall under a ſurgeon's care, there are none which require a more ſerious deliberation how to act, than where an opening is to be made into the articulation. Gouch deſcribes a collection of the liquor of the mucous glands lying under the rectus muſcle of the thigh; which, if I remember right what he ſays, might be taken for ſuch a caſe as is under review. But here the fluctuation through the joint put the matter out of doubt.

As I could not reaſonably expect the abſorption of ſo large a quantity of ſinovia, and the patient's being ſo debilitated and extenuated by pain, not admitting of any delay, if I did not make a puncture, this purulent ſinovia would corrode the ligaments and articular cartilages, and an anchyloſis would be the beſt event that could be expected. On the contrary, if a large inciſion was made, the air would be let into the articulation, and irritation, inflammation, and a ſubſequent ſuppuration ſucceed.

In thoſe caſes a puncture with a fine lancet occaſions no additional irritation, the joint is freed from the diſtending acrid ſinovia, and a happy event is, as far as I have ſeen, the conſequence: whereas, by the contrary mode

of

of treatment, the loſs of both limb and life is not unfrequent.

NOTE VII.

SECT. III. p. 50. (*)

I HAVE met the two following remarkable inſtances of this, and where the adminiſtration of mercury in the beginning ſeemed to aggravate every ſymptom.

June, 1778.

A young boy, aged between ſixteen and ſeventeen, had a large bubo, attended with a virulent running and phymoſis. The bubo was opened by cauſtic, and he took a variety of mercurials internally for two months before he came into the hoſpital; during which time the whole groin came to be engaged in one putrid ulcer, extremely irritable.

I began with mercurial frictions on the leg and thigh of that ſide, which was the left, a drachm only at a time, and gave him a decoction of the bark at the ſame time. But, far from any amendment, after three weeks treatment, and applying various topical applications,

tions, the ulcer extended, with no other diſcharge but a thin putrid ichor, attended with great pain, want of reſt, but when recourſe was had to opiates. I found that he was always remarkably worſe after rubbing. He did not ſpit, and was, to the laſt degree, exhauſted.

I had him waſhed out, and put into a clean bed, gave him a gentle laxative, and put him entirely on the bark, with a generous regimen. From the moment mercurials were left off, he gained ground every day; that vaſt putrid ſore began to ſuppurate, and gradually to clear, and his appetite, fleſh, and ſtrength, to return; ſo that, in about four weeks, it was contracted to the breadth of a crown, of a clean ſore. He had a purulent running from the urethra.

I now again began with the frictions, which had the deſired effect, and after rubbing in about two ounces of the ointment, at a drachm a time, he was in a condition to leave the hoſpital well, and go into the country.

July, 1778.

A young man, aged twenty-ſeven, came into the hoſpital; for four weeks before, he had a venereal complaint, viz. a running, and a bubo in each groin. I took him in, and, after the uſual preparation, I began by rubbing in two

drachms of mercurial ointment every ſecond night. After ten or twelve days rubbing he gained no ground, was quite reſtleſs, and could not ſleep at night. There appeared a deep fluctuation in both the buboes: a cauſtic was applied, and the matter let out, and the frictions continued, but with no advantage; for the apertures made by the cauſtic degenerated into large gangrenous ulcers, and the glands of the groin were expoſed, being diveſted of their ſurrounding cellular membrane, and they appeared as large as cheſnuts, which kept up a conſtant irritation, attended by a thin, acrid diſcharge, hectic heats, no ſleep, and conſtant pain. I tied four or five of them up with a waxed ligature, and they fell off in ſome days.

As the frictions increaſed the ſloughy diſpoſitions of the parts, pain, &c. at the end of five weeks, I had him waſhed out, and gave him the bark both in powder and decoction, and had him ſupported with jellies, broths, &c. opiates were adminiſtered as occaſion required. He was ſo reduced as to become a mere idiot, and diſcharged every thing under him. His hips and back had gangrenous eſchars on them. However, at length things took a favourable turn; and, notwithſtanding the muſcles

cles were all bare in the upper part of the thigh, yet a laudable ſuppuration took place; he gained ſtrength and fleſh, and the ſores contracted into a narrow compaſs.

At the end of three months, when the ſores were near cicatrized, I began to rub him with a drachm of mercurial ointment every third night; but when he was about ten days rubbing, he began to ſpit blood, and got a cough, and a pain and ſtraitneſs in his breaſt. I immediately got him waſhed out and purged, gave him an electary of nitre and conſerve of roſes, and, after the ſpitting of blood ſubſided, put him on a milk diet, with a decoction of the bark, and ſent him into the country, ſtrongly inclining to a hectic; but he ſoon after recovered his former ſtate of health.

I have reaſon to imagine, that the matter in the buboes, which formed very deep, had, before it came forward enough to be let out, deſtroyed the cellular membrane round the glands, which left them ſo expoſed.

I have ever experienced, in a variety of venereal caſes, that perſiſting in the uſe of mercury, after a certain time, rather tends to aggravate every ſymptom. There are ſome of

thoſe complaints, notwithſtanding all our endeavours, will grow worſe every day for ſome time; after which, even if they were left to nature, they gradually become better. The adminiſtering the frictions latterly, I do not doubt, was the occaſion of this man's ſpitting blood; although he did not rub more than three drachms during the ten days. But he was before ſubject to a ſpitting of blood, which he concealed from me during his illneſs.

NOTE VIII.

Sect. IV. p. 56. (†)

THE following inſtance will, in ſome meaſure, ſhew what ſucceſs we may expect from this method of treatment.

October the 25th, 1777.

A man, aged between thirty and forty, who had been for more than a year ſubject to a conſtant deſire of making water, and piſſing blood at times, often came to the hoſpital for advice. I once introduced the catheter, but diſcovered nothing that could lead to the knowlege of the cauſe. He took a pain and ſwelling

ing of his left leg and thigh: in two days after, he was carried to the hoſpital.

When I ſaw him, the leg and thigh ſeemed to have an inflammatory œdema, and about the toes had a gangrenous appearance. I ordered a boiled bread and milk pultice, with oil, to the leg, and gave a grain of opium every two hours, or an equivalent of Huxham's antimonial wine, with tinct. thebaic. The next day half the foot was completely gangrened, but he was eaſier. The day after, the whole foot was gangrened, and the third morning he was dead.

It was on Mr. Pott's recommendation this method was tried; the only advantage procured was, to keep the man eaſy. It was a bad caſe; and although I cannot ſay I entertain any great opinion of the method, yet this inſtance would not prejudice me much againſt it.

NOTE IX.

Sect. IV. p. 59. (*)

THE following caſe ſhews, that it is ſeldom prudent to leave gangrened limbs, after the line of ſuppuration is formed, to fall off of themſelves.

October the 20th, 1777.

A fine girl, aged between eight and nine, playing on a car, had her right arm engaged between the rungs as the car was going, and it was broke about an inch and an half above the elbow; the bone protruded anteriorly, I believe, for a ſmall wound was made, which bled a good deal: a young man bound up the arm extremely tight. All this happened on Monday.

On Tueſday ſhe was brought to the hoſpital, and in the evening I ſaw her. The fore-arm was quite livid and cold, the circulation having entirely ceaſed in it; a quantity of bloody ſerum came from the wound, which was dreſſed with a ſmall pledgit; the common fomentation, with vinegar, crude ſal ammoniac, and ſome ſpirits, were immediately got ready, and ſhe

ſhe was ordered to be inceſſantly ſtuped all night; fifteen drops of tinct. thebaic. was preſcribed for night. As ſhe was this day brought from the country, ten miles off, we judged nothing more was requiſite for the preſent.

On Wedneſday I found ſhe had paſſed a tolerable night; the arm was ſomewhat warm, but this I imputed to the ſtuping; the inſenſibility remained; there was a conſiderable degree of tenſion above the fracture; ſhe was not thirſty, but was reſtleſs: it was propoſed to dilate the wound, but to this I objected, in this high ſtate of inflammatory tenſion: ſix ounces of blood were taken from her arm; a ſolution of manna and Rochelle ſalts ordered to be given by ſpoonfuls, to procure ſome motions; the ſtuping to be continued. In the evening her fever was rather leſs: fifteen drops of tinct. thebaic. were ordered again for night.

Thurſday, on examining the arm, a circular line of ſuppuration could be perceived above the fracture; her pulſe was ſofter, and her ſkin cooler; ſhe had two or three motions in the night; the fore-arm was quite black and cold: half a drachm of the bark, in two ſpoonfuls of ſaline julep, was ordered every two

hours; the ſtuping to be continued, and the bread and milk pultice to be applied to the arm at the line of ſuppuration, and the paregoric as uſual.

Friday, the line of ſuppuration was more perceptible, and was dreſſed with pledgits of linament; the bark as uſual; applications the ſame: the arm ſeemed a good deal leſs tenſe, and a purulent ſerofity came from the wound: Oat-meal boiled in porter to a pultice, inſtead of the bread and milk, was applied round it; the fore-arm wrapped in cloths, dipped in ſpirits: two ſtools were procured by the ſolution: the paregoric at night as uſual.

Saturday, the ſuppuration more advanced; the tenſion of the arm and fever ſtill ſubſiding, ſhe paſſed the night tolerably well: thoſe two days paſt ſhe had chicken-broth allowed her: no change in the treatment.

On Sunday I found the ſuppuration ſo far advanced, that on liſting the fore-arm, which began to be offenſive, I found it nearly ſeparated at the fracture, and only held by ſome of the nerves; theſe, and ſome other little bridles, I cut with my ſciſſars, and the arm ſeparated at the fracture, leaving a ſtump very near clear: I applied the common dreſſings,

and

and continued the bark. I was informed, that ſhe had the chin-cough for ſix weeks before the accident. I gave her five drops of tinct. thebaic. immediately on taking off the arm; for although ſhe felt no pain, nor loſt a tea-ſpoonful of blood, ſhe was much frightened.

She went on in the uſual way, as if ſhe had ſuffered an amputation; the bark was continued; but on Monday ſhe got no paregoric, as ſhe coughed much, and expectorated little: ſhe paſſed a very reſtleſs night, which induced me to give it, with fifteen drops of Huxham's antimonial wine, which agreed very well with her.

The ſtump ſtill remained ſo much enlarged, that the ſkin could not be extended ſo as to favour a cicatrization; but nature, by a ſecond, and very abundant ſuppuration, procured what I almoſt deſpaired of; for it broke out, when near cicatrized, into a large ſordid ulcer, very painful, and attended with a great diſcharge: when by this the ſtump diminiſhed in thickneſs, and its ſurface, of conſequence, contracted, the ſore began to look well, and healed at the end of three months from the time of the accident.

From

From the difficulty I had in healing this ſtump, and the pain the little girl ſuffered, I am inclined to believe it would be well done to amputate on the ſeparation of the gangrenous parts; for, by the ſaving of ſkin in the amputation, we generally get the patient, comparatively ſpeaking, ſoon well; but otherwiſe the cicatrization is the work of time, and may, perhaps, be doubtful.

I diſſected the fore-arm; the muſcles ſeemed red, ſound, and firm; nor could I perceive any extravaſation of moment, even through the cellular membrane; the articulation of the elbow was ſafe, but the ligaments appeared much inflamed; there remained about an inch and a half of the humerus, and there was a fiſſure in the external condyle. The mortification ſeemed the conſequence rather of a ceſſation of the circulation in the arm, occaſioned, perhaps, by the tight bandage, than from any previous inflammatory tenſion or extravaſation.

NOTE

NOTE X.

SECT. IV. p. 59. (†)

OF this the following are remarkable inſtances.

December the 4th, 1776.

On Sunday evening, I was ſent for to ſee a man in Stoney-Batter, aged fifty-five, who had broke his left leg, five miles off, by leaping down a ditch, and rode home after. On examining, I found the leg fractured at its inferior extremity, juſt by the articulation: there was a large contuſed lacerated wound over the internal malleolus, where the end of the fractured tibia was thruſt through, which was very uneven and pointed. Having enlarged the wound above and below, and put the leg into a relaxed ſituation, I ordered the bread and milk pultice, and ten ounces of blood to be taken from him, and a paregoric for night.

Next day I found he had paſſed a tolerable night; his pulſe was full, and rather quick; the leg was quite lax, and ſhewed no diſpoſition to any extraordinary degree of inflammation. Ten ounces more of blood were taken from him; papers of ſal polychreſt and rhubarb were ordered, ſo as to procure ſtools; the

tailed bandage was ſubſtituted; and compreſſes dipped in a ſolution of crude ſal ammoniac, in brandy and vinegar, ordered, to be renewed occaſionally: the wound was not opened; the leg lay amazingly well.

Tueſday, he had paſſed a tolerable night; his pulſe rather quick; the papers of purging powders yeſterday had operated two or three times. He had a ſaline julep to take occaſionally; his regimen had nothing particular in it from the general method in ſuch caſes, but the paregoric was omitted; the leg lay well. I dreſſed the wound this day; it was crude, and ſhewed not much ſign of ſuppuration. As much of the powders was ordered as would procure him a ſtool or two. No tenſion, and a very inconſiderable degree of inflammation in the leg. The paregoric ordered for night.

Wedneſday, he had paſſed rather a reſtleſs night; the leg lay well, but the wound did not digeſt, nor ſeem inclined; although neither the tenſion or inflammation appeared any thing extraordinary: the leg was rather lax. As he had ſtools yeſterday by the powders, nothing was ordered but the paregoric for night. He had, I obſerved, a chillineſs on him, and his

pulſe

pulſe was rather quicker. In the evening he had a ſevere rigor, and during the night raved prodigiouſly, and was extremely uneaſy.

Thurſday, in the morning, I found him delirious, his pulſe extremely quick, great inquietude and reſtleſſneſs; and on opening the dreſſings, I found a large gangrenous bliſter covering the foot, which was quite cold, as was the wound: however, the leg above the wound was ſoft and lax, and really ſeemed quite diſengaged. The ſtrong-beer pultice was inſtantly applied; a fomentation, to which brandy and crude ſal ammoniac were added, ordered to be got ready, and the patient to be conſtantly ſtuped.

In the evening, in conſultation, we found the gangrene was encreaſing faſt, and the leg becoming tenſe; and although, in ſome meaſure, he had his recollection, he was, notwithſtanding, delirious. Three grains of of opium, in three pills, one every three hours, was ordered, with three ſpoonfuls of a ſtrong decoction of the bark, and a drachm of the powder, every three hours; the ſtuping to be continued; bliſters to the leg and thigh of the oppoſite ſide; beef-tea; port and water, acidulated with lemon-juice, for drink. The night

night he paſſed in a ſtrong delirium, and could hardly be kept in bed.

Next morning, Friday, the leg was totally ſphacelated, and the thigh tenſe. He took none of his medicines but once. Long inciſions, to let out the putrid ſeroſity and air, were made; ſtuping, &c. continued. The evening, every thing worſe; he was raving and ſtruggling continually, and got no reſt by the opium. Next day, Saturday, every thing had a horrid appearance; the leg quite black, thigh and belly tenſe; he dying, and died that evening.

January, 1779.

On Saturday evening I was ſent for to Truck-ſtreet, to ſee a man, aged thirty-ſix, rather corpulent, who had broke his left leg, leaping over a drain, the Wedneſday before. The account the attending ſurgeon gave me of his caſe was as follows: that the fracture was a compound one, with a large contuſed wound a little above the internal malleolus, out of which ſome inches of the tibia had protruded; that he was obliged to ſaw off better than an inch of it, in order to reduce it; that he bled him nine times largely, during the three firſt days, kept his bowels free by a laxative, and adminiſtered

niſtered a paregoric at night: fomentations, and an emollient pultice, were applied to the leg: that every thing appeared favourable; the man having no rapid fever, or alarming degree of inflammatory tenſion in the leg, until Saturday evening when he became hot and reſtleſs, and the foot extremely tenſe.

Sunday morning, all below the fracture was gangrened; and in the evening the whole leg was as tenſe as a drum, and the gangrene ſeemed to aſcend faſt up the thigh: his belly was rather hard; his pulſe was not much quickened or ſunk, and he was perfectly in his ſenſes. Next morning the thigh was quite tenſe. On making inciſions into the leg, great quantities of elaſtic air, and putrid ſerum, were diſcharged. In the evening he became delirious, and died that night. The bark and effervescent draughts were ordered; but the diſeaſe was too rapid in its progreſs to admit of their being of any effect.

There is a great ſimilarity in the two preceding caſes, both in their progreſs and event: the only difference was, that the one was bled but twice the two firſt days, and the other nine times the three firſt days: however, this ſeemed to have no effect even in retarding the unhappy event, as both died before the eighth day.

The following is from Mr. Petit's poſthumous works. Vol. III. p. 133.

An inhabitant of Mons, in Haynault, fell into a cellar, and diſlocated his foot, near the internal malleolus. A bone-ſetter was uſing his efforts in vain to ſet it, during two hours, when I was called: the difficulty of reducing the luxation did not ariſe from the tenſion of the muſcles; the aſtragalus had paſſed over the internal malleolus without breaking it; but having lacerated the ſkin, it was ſo confined in it, that it could not be returned to its ſituation by the ordinary extenſions. I cut the ſkin above and below, to remove the ſtricture, and the bone eaſily returned into its place: the patient was eaſed of his acute pains; I dreſſed him; I placed him commodiouſly, and bled him copiouſly: all preſent, eſpecially his friends, were laviſh in my praiſe; I was then but ſixteen; my youth made me receive their encomiums with pleaſure: I did not foreſee what was to be the event of my operation: my patient went on wonderfully well the two firſt days; the third he had ſome inquietude; the fever was kindled,

and

and he felt very ſharp pain. I found the foot inflamed, and tenſe above the malleolus: I dreſſed him as uſual, bled him for the ſixth time, and ordered an emollient cataplaſm. I called the ſurgeon-major of our hoſpital into conſultation; he approved of the bleedings and cataplaſm; but pronounced a ſentence, dreadful to the patient, the family, and my ſelf-love: "The patient, ſays he, muſt be bled again, and the apparatus got ready to cut off his leg to-morrow-morning, if things are not better." I could have wiſhed, as well for my own ſake as the patient's, he had not been ſo laconic, nor ſo haſty in his deciſion: but men in place do not always attend to certain conſiderations. We went out together, and he told me, that if ſimilar wounds fell into my hands, I ſhould cut off the leg, and not wait until the ſymptoms obliged me to it. I aſked the reaſon; he contented himſelf with adding, that he never ſaved a patient of that kind but by amputation; and that it only ſucceeded when immediately performed. Next day the patient's foot was almoſt gangrened: I performed the amputation; and the patient died five or ſix days after.

He adds, he has ſeen ſeveral in ſimilar caſes: that ſome had been cured without the loſs of the limb; others underwent amputation; and of the latter there died more than recovered. He has even ſeen ſome get well by the help of nature alone.

May, 1773.

A woman, near ſixty, by a fall down ſtairs, had the inferior end of the cubitus thruſt through the teguments. She came immediately to my houſe: the whole inferior extremity was out of the wound; I reduced it without the leaſt difficulty. She came next day to the hoſpital, where it was dreſſed ſuperficially: there was neither pain nor inflammation in the arm. As ſhe was an extern patient ſhe did not ſtrictly keep to rules.

On the third day, I ſaw her in the ſurgery: her arm was exceedingly tenſe, but not painful. I took her into the hoſpital; her pulſe was low, but quick. I ordered her a clyſter, and her arm to be conſtantly fomented with the common ſtupe, and a pultice to be applied.

Next day, the hand was gangrened, and the tenſion was advancing. I made deep ſcarifications all along the fore-arm, dividing the apo-

aponeuroſis of the muſcles, ſo as to leave them free. She had the bark, and was conſtantly fomented; camphorated ſpirits were added to the ſtupes, and a compreſs dipped in them ſubſtituted to the pultice. Next day the mortification had taken the arm, and it was ſcarified; the day following, her belly became tenſe and painful, her pulſe intermitting; and ſhe died, in about two hours after, quite ſenſible.

The cauſe generally aſſigned for gangrenes, in moſt of our books, is, either an exceſs of motion in the circulatory powers, or its entire defect; and gangrenes are diſtinguiſhed into thoſe that ſucceed violent inflammations, or thoſe proceeding from internal cauſes, where the circulation ſtops, through a defect in the vis vitæ, or oſſification of the arteries, or where ſome acrid or morbid matter is thrown on the part. But in the caſes under review, we ſee a gangrene, which we cannot impute to either of the above mentioned cauſes, and that, notwithſtanding it is overlooked by moſt writers, really may be conſidered as a gangrene which frequently ſucceeds to violent injuries, and fractures in particular.

If we conſider that in the firſt man's caſe, no conſiderable degree of inflammation or pain attended the fracture, no tight bandage or protruding ſplinter preſſed on any veſſel, and that from the firſt alarming appearance, which was uſhered in by a rigor, the third night, to the time the gangrene actually took place next morning, was not above ten or eleven hours, we ſhall be at a loſs to account for ſo ſudden a change, which ſo rapidly advanced as to kill the patient on Saturday: however, this event I have ſeen in many caſes where it was little expected.

If we ſhould ſay, the concuſſion, diſtraction, and laceration of the parts, might ſo far incapacitate the veſſels from continuing the circulation, as to give occaſion to a ſucceeding gangrene; yet, the three firſt days, we had no ſure criterion from which we could infer ſuch a circumſtance would take place. In the beginning, no man could reaſonably propoſe amputation, as the caſe did not appear of that deſperate nature; and after the gangrene took place, and was aſcending ſo rapidly, it would have been equally injudicious. In all the caſes of this kind I have ſeen, the gangrene generally came on the fourth day, and the patients never ſurvived the eighth.

NOTE XI.

SECT. V. p. 69. (*)

THIS is ſtrongly exemplified in the following caſes.

1771.

A gardener's ſon, aged twenty-three, had, for ſome years, his neck on each ſide monſtrouſly enlarged with ſcrophulous tumours. After trying many remedies in vain, he was, contrary to my advice, put under a ſalivation, when they encreaſed ſo much and ſo rapidly, that when he came out of it, he could ſwallow nothing ſolid. He had then recourſe to a variety of medicines, Lucan ſpa, &c. One or two of the tumours broke, and diſcharged an ill-conditioned matter; and they encreaſed ſo much, that he could not take a pint of any liquid in the day, and was at laſt ſtarved to death. Theſe tumours were not attended with cough or hectic.

In 1772, I had a patient, a clergyman, aged about twenty-ſix, who had been much ſubject to glandular ſwellings all his life, which he

attributed to lying with an old infirm man during his infancy. While in the college, he was ſeverely attacked; all his neck was enlarged, ſo that he could not buckle his ſtock; the axillary glands were indurated, and became ulcered, and ſtretched to the ſternum. As he was much emaciated, he was adviſed to come home, being in Bourdeaux, and try the air of his own climate; he did ſo, and arrived here in a wretched way; all the glands that ſuppurated became fiſtulous, or ill-conditioned funguſes, and diſcharged immenſely. The ſurgeon who had the care of him on his arrival, opened all the ſinuſes.

After ſome time, I was conſulted; he had then a large tumour over the middle piece of the ſternum, which reached to the cartilago enſiformis; above, there was a ſmall ulcer which opened into it; the teguments were exceedingly thick, though there was always matter in it: all his ſores under his arms had a bad appearance, not one digeſting kindly; the lips ragged and thin, and the bottom crude; he was emaciated, had a ſtrong hectic and nightly ſweats, but his appetite was tolerable.

I immediately laid the tumour open, and found the ſternum carious. I laid in a ſmall doſſil,

doſſil, ſpread with a ſoft digeſtive, and dreſſed the other ſores with ſome of Goulard's cerate; at the ſame time, I ordered him the bark, and put him, in a great meaſure, on a milk diet, he eating but a little white meat at dinner. After ten or twelve days, though the ſores were not mended, yet he became ſtronger, ſlept better, and the diſcharge became thicker and leſs.

I now made him take the air in a carriage, and he drank goat's whey. He generally took an ounce and an half of bark in the twenty-four hours, in decoction or ſubſtance, as it ſat eaſieſt on his ſtomach. In three weeks he rode every day, but his neck continued much the ſame way. I now ventured to preſcribe him ſome of Huxham's ethiops antimonialis, a drachm in twelve pills, two each night, with a pint of ſarſaparilla decoction, continuing the bark: his neck inſenſibly diminiſhed, in five or ſix days after beginning them. I interpoſed ſome purgatives now and then, as the tartar. ſolubil. or ſal polychreſt: the ſores became better, ſo that I applied nothing but pledgits of Goulard's cerate.

It being now ſpring, and after having him about ſix weeks, in which time the glands of

the neck became one third leſs, I made him quit the ethiops. After purging him twice with the ſal polychreſt, &c. I made him drink Lucan ſpa, and take the bark in electary, which he continued to do, drinking three quarts a day, and ſometimes four. In about three months, all the ſtrumæ of the neck diſappeared, his breaſt was well, and the wound over the ſternum healed. As I did not dreſs him, I do not know if there was an exfoliation. He regained his fleſh, and was in excellent health; but two of the ulcers in the axilla continued open: I was not uneaſy to heal them, bid him keep them clean, and dreſs them with the cerate.

I now ſent him down to the ſalt water, where he continued to drink it, twice or thrice a week, the whole ſummer; and when he came to town was quite well as to his neck, but his two ſores in the axilla were ſtill open. He went into the country, where he continued for ſome time, taking Lucan ſpa, was freed from all his complaints; and is at preſent a ſtrong robuſt man.

In theſe two caſes, we ſee the danger attending on thoſe large ſtrumæ, and the length of time,

time, and variety of medicine we muſt employ, even to prolong life. Whether theſe diſeaſes be hereditary or acquired, their ſeat is in the lymph, which when viſcid, forms obſtructions and coagulates.

As the veneral virus has the ſame effect, and very often degenerates into ſcrophulæ, in the children of diſeaſed parents, we ſee the reaſon why practitioners employ mercury in thoſe caſes, it being the moſt powerful attenuant we have; but here it fails us, and often exaſperates the diſeaſe, except prudently guarded; for by its encreaſing the action of the veſſels on the fluids, and vice verſa, it often brings thoſe tumours to ſuppurate, that would have lain dormant perhaps for ever.

From a great number of ſuch caſes that I have opened, I found in general either the œſophagean, bronchial or meſenteric glands diſeaſed, ſome ſuppurated, others ulcerated, ſome inflamed, all generally of the ſteatomatous kind; which accounts for the many ſymptoms ſcrophulous patients undergo before they die. I have ſeen the entire left lobe of the lungs converted into a ſteatomatous tumour, and the heart corroded like a honey-comb, by a purulent ſerofity, that was to the quantity of half a

pint

pint in the pericardium, in a ſubject I diſſected out of the foundling-houſe; and as I have for ſome years uſed them every winter for anatomical demonſtration, I remarked that moſt of them had diſeaſed glands, either in the thorax or meſentery, which perhaps may be attributed to the viſcidity of their food.

NOTE XII.

SECT. V. p. 70. (*)

AS I have recommended the extract of hemlock, I thought the following caſes might ſerve, both as an inſtance of the ſucceſs we may expect from it, and the caution neceſſary in its adminiſtration.

In June 1772, a man, aged about forty, of a thin robuſt habit of body, healthy all his life, married, but had no children, without any viſible cauſe had both teſticles become quite ſchirrhous, almoſt all of a ſudden; that is one half of each, the end oppoſite the epididymis: the left one was vaſtly bigger than the right, the laſt not being much encreaſed in ſize. He was four months under it, in which time he

was

was treated by a number of practitioners, and at laſt by repeated ſtupes and pultices, the left teſticle broke, became painful, and gleeted exceedingly, without the leaſt decreaſe in the hardneſs.

In this ſituation, he was put under my care by a phyſician. He had a puffy kind of ſwelling in the groin, attended with conſtant pain; the left teſticle, that is the part ulcerated, was as hard as a ſtone; above, it was ſoft, and ſeemed to have water in the tunica vaginalis; the other was as hard. I at firſt thought it venereal, and though he denied he ever went in the way of getting ſuch a complaint, I thought he might be deceived. I enlarged this little ulcer, and found part of the teſticle converted into a rotten fungus, and the reſt quite hard; I dreſſed him lightly, but he became feveriſh, and could get no ſleep. I bled him, and gave him, for two or three days, a laxative, and kept him to a low diet: the ulcer became worſe, no digeſtion, but a naſty bloody ichor, and conſtant pain.

I now gave him Huxham's ethiops antimonialis, with a decoction of ſarſaparilla; but before he took a drachm of it, he ſaid his pain was intolerable, though the teſticle was conſtantly

conſtantly ſtuped, and a bread and milk pultice kept to it, well ſupported with a truſs. I perſiſted a week notwithſtanding, although I was obliged to give him an opiate every night.

Every thing now bore a bad appearance; the ſore became fungous, gleety, and fetid; the teſticle was vaſtly enlarged, and the puffy ſwelling above the hardneſs, that is the other half, and epididymis and ſpermatic chord were very large; the other became painful alſo. I now, for the laſt, gave him two grains of turbith mineral every night, with a grain of extract of thebaic; but the third night, he was in ſuch torment, that the next morning he was going home. I begged him to ſtay, and that I would ſee what another method of treatment would do for him, to which he conſented.

I began by purging with the tartar. ſolubil. and rhubarb, and fomenting every three hours with a ſtrong decoction of hemlock. After two days, I gave him the extract of hemlock, a drachm to be taken in twenty-four hours, in pills; when he had taken theſe about four days, his pains became leſs, his ſore began to digeſt, and the ſwelling to decreaſe. I now encreaſed the quantity to four drachms in twenty-

twenty-four hours: he became giddy for an hour or two, eſpecially when faſting: his ſore mended every day. I gave him three ſpoonfuls of decoction of bark, three or four times a day; and in ſix weeks he was ſo well that I bid him go to the ſalt water. His ſore was not the bigneſs of ſix-pence, looked well, and he had no pain in it or in his groin; he ſtill continued the extract.

When he came back, he looked well, his ſore was no bigger than a pea, the hardneſs, and ſwelling, one third leſs, that in his groin gone, he could ride, and went home. After continuing the extract for ſome time, the ſore cicatrized, and what remained of the hardneſs was of little conſequence, and he continues well ever ſince.

February, 1778.

A man aged ſixty, thin, but always healthy, four years ago had a ſmall cancerous ulcer appear towards the right angle of the lower lip; it gradually encreaſed ſo as, when he came into the hoſpital, to occupy three parts of the lip in a horrid cancer: he came from the country, and was received into the hoſpital. On examining, I found that the ſubmaxillary glands

glands were affected, ſo that all operation was precluded.

The man preſſed exceedingly hard that I would do ſomething for him; I therefore had his lip fumigated twice a day, as I may ſay, with the elaſtic air that aroſe from a fermenting mixture of ſpir. vitriol. ten. diluted, and chalk; and after, the carrot pultice was applied: I cannot ſay he found any advantage by this courſe.

He was put on a courſe of the juice of hemlock; a ſpoonful was given him in a decoction of bark, three times a day, with orders not to exceed it; but he, anxious to get ſoon well, and ſtudiouſly concealing it from me, encreaſed the quantity to ſix ſpoonfuls a day with a quart of the decoction of the bark: when coſtive, he had a gentle laxative, but he ſeldom wanted it; the only effect the hemlock ſeemed to have, was making him very giddy, as he uſed to expreſs it, quite drunk; he had his appetite. The cancer both cleared, and viſibly diminiſhed every day in ſize, and gave him no pain; ſo that at the end of three weeks, it was diminiſhed at leaſt one half; but before the end of the fourth week, he, in the morning, complained of being weak; although

though the day before he took but three ſpoonfuls of the juice; however, at dreſſing, he did not ſeem much altered, but in the evening ſeemed drowſy; and that day he took but two ſpoonfuls. In the middle of the night, he was heard to groan, and to breathe with difficulty, and, on aſſiſtance coming to him, he was found dead.

DISSECTION.

Next morning, I opened him: the belly was tenſe, but the ſurface of the inteſtines, and the other viſcera were in their natural ſtate; part of the colon was inflated; the exterior ſurface of the ſtomach was in its natural ſtate. On opening the ſtomach, the villous coat ſeemed excoriated or raw, and ſo tender, that, upon rubbing it, there ouzed out drops of blood from its pores: the œſophagus was in the ſame condition, but the duodenum was free. All the thoracic viſcera were remarkably ſound for ſo old a man: the heart was rather ſmall, but firm; a ſlight polypous concretion was found in the right ventricle; and it ſeemed as if the coagulable force of the lymph

lymph was much leſſened, the blood ſeeming to be morbidly diſſolved. The lungs here and there adhered to the pleura. The brain was ſound, but the veſſels ſeemed to contain little blood; the plexus choroides was remarkably pale; not much water in the ventricles; and the dura mater appeared to adhere to the ſcull by the inſinuation of its fibres, rather than by its veſſels, many of which ſeemed to have been obliterated. The brain did not appear intimately to fill the cranium.

That the juice of hemlock is a powerful deobſtruent and ſedative, I have always experienced. I have never ſeen its adminiſtration, although taken in larger quantities than this man took, productive of bad effects; but it is probable the air of the city, and anxiety of mind, contributed, with the ſedative power of the hemlock, to precipitate this poor man's falling a victim to the cancer. As for the excoriation that appeared of the internal coat of the ſtomach, I attribute it to his ſwallowing his ſaliva, loaded with acrid, cancerous ſanies.

This ſame month, two women, who have the uterus prodigiouſly enlarged, and the os uteri cancerous, attended with ſheddings, conſtipation,

ſtipation, difficulty in making water, &c. take the juice of hemlock, from three to five ſpoonfuls a day, without ſeeming to be much or at all benefited by it; as does a lady for a large cancerous breaſt, not ulcerated. Indeed the three caſes are very bad ones.

The two firſt died in about two months after I wrote this caſe; in one there was every ſymptom of a diſſolved ſtate of the fluids; as ſhe was exhauſted by hæmmorrhages from the gums, as the other was from the uterus. The third lady's breaſt has broke out, and ſhe died ſoon after.

NOTE XIII.

SECT. V. p. 72. (*)

THE following caſes ſhew, that thoſe perforations are generally ſucceeded by diſagreeable ſymptoms, ſometimes reducing us to the neceſſity of amputating the limb.

Patrick Fahy came to the hoſpital, with an ulcer above the internal malleolus of the right leg. He had been under the care of many

ſurgeons. I found the tibia enlarged under the ulcer; and was obliged to lay the bone bare with a cauſtic, to the extent of two crowns, in order to expoſe the whole ſurface of the caries; in ſome days after, I made ſeveral perforations with a large gimblet: two days after, he was taken with violent ſhiverings, ſucceeded by a rapid fever, which held him for a fortnight. The ſhell exfoliated in a month, and he got well in about three. He had the blue pill, and decoction of the woods, latterly.

In another ſimilar caſe, where I trepanned the bone, the patient had like to die of the fever.

March, 1778.

A young man, aged nineteen, had a great collection of matter over the tibia, juſt under the knee; he had no previous indiſpoſition, but pains in his bones, occaſioned, I believe, by hardſhip. He was taken into the hoſpital, and on examination, I found he laboured, for more than a fortnight, under all the ſymptoms of an abſorption of matter.

I made an ample inciſion, and evacuated a great quantity of matter; I found the bone

carious to a great extent, and made perforations with a large gimblet. I gave him the bark in large quantities; but notwithstanding, his fever, ſhiverings, and want of ſleep continued, with more or leſs violence, for near two months, when at leaſt three inches of the tibia ſeparated, juſt under the articulation of the knee, and came away nearly entire. He then began to gain ground, and gradually recovered; but was not well at the end of nine months; after which time he could bear very well on the leg, and no deformity remains, but a hollow, which decreaſes every day.

September the 3d, 1774.

A young man, aged twenty-five, or thereabouts, had, for ten years, a ſore on his right leg, which was treated often, but broke out again. When he came to the hoſpital, the ulcer was of the breadth of a man's hand, and the tibia in the middle was black and bare for three inches, and much enlarged: his habit of body, which was robuſt, ſeemed but little affected.

As the bone was diſeaſed above and below the ulcer, I laid it bare by cauſtic to the extent of the caries, and perforated it up and

down with a large gimblet, in order to haſten the exfoliation: the day after, he became reſtleſs and exceeding feveriſh: he had the ſaline draughts, and a paregoric at night, but to no purpoſe. The leg became of an enormous ſize, the diſcharge great, the foot œdematous, and the ancle painful: he had the bark; but he began to ſhiver the 12th, and had no reſt at night: his pulſe was exceedingly quick, he fluſhed in the face, and had profuſe ſweats. He continued to ſhiver irregularly to the 19th, when I took off the leg.

On diſſecting it, I found the articulation of the foot carious, and ſome matter in it. This diſeaſe certainly began, and was formed, from the time he came into the hoſpital, and, I verily believe, was due to the irritation of the cauſtic and perforations: for it is to be remarked, he walked fifteen miles from the country to the hoſpital, which he could never do had the articulation been engaged.

The 20th, His pulſe was better than the day of amputation, but he had profuſe ſweats, and his pulſe was ſtill very quick. 21ſt, Much in the ſame way, but could not make water; I was obliged to introduce the catheter,

catheter, and drew off a quart of flame-coloured urine. In the evening he was ſeized with a ſhivering, which laſted an hour, followed by a profuſe ſweat: he had half an ounce of bark every three hours, in Port and water, given him: a ſtool was previouſly procured by clyſter.

22d, His pulſe ſtill quick, and the ſweats not diminiſhed: the ſtump was opened, and appeared crude and gleety; at twelve he ſhivered an hour, and ſweated after: he had a bliſter to his leg: at eight in the evening he ſhivered again, his teeth chattering: he had three drachms of the bark, every two hours, in Port, and was ſupported with broths: his pulſe, whilſt ſhivering, was not to be felt.

23d, His pulſe was quieter, but the ſweats much the ſame; the ſtump ſtill gleety: as he had no motion, ſome papers of ſal polychreſt and rhubarb were ordered: he had ſome appetite, and was ordered a bit of chicken. At twelve at night he ſhivered again for half an hour, and ſlept but little. 24th, His pulſe was quick, and the ſweat profuſe, but he was quite ſenſible: his bark was continued as uſual; the ſtump was not much changed for

the better; he had no return of his ſhivering, nor did he ſweat ſo much.

The 25th, In the morning, his pulſe was ſtill quick; he began to complain of the ſtump's being painful; it began to digeſt, and the gleet ſeemed changed into matter. He drank two quarts, in twenty-four hours, of barley-water acidulated with ſpirits of vitriol tenuis; his ſweats were leſs; at ten at night his pulſe was very quick, but his ſkin not ſo hot: as he did not paſs water freely, I gave him forty drops of tinct. thebaic. with as much ſpir. nitri dulc. in a cup of Port. At night he ſweated much, but had no rigor. 26th, Much better, and the ſtump clearing. 27th, His ſweats much diminiſhed; he had ſome papers of ſal polychreſt and rhubarb; they purged him four times. At night, he ſlept but little, and ſweated profuſely.

28th, His pulſe low and quick; the diſcharge from the ſtump was thin, and it looked pale; during the day, his heats came on, and a partial ſweat. At three, he got a pint of Seltzer water, and the bark in Port was continued as uſual, with a tea-ſpoonful of ſweet ſpirit of nitre. In the evening, his pulſe was high and quick; he was extremely hot, and his

his face flushed; at ten he took another pint of Seltzer water. He sat up those two days in the bed; the night he passed but indifferently, slept not an hour, had frequent heats on him, and sweats. No bark was given in the night.

29th, His pulse exceedingly quick, and fuller than it was the morning before; goes to stool regularly; he had a pint of the Seltzer water; a better appetite; the stump looks better; the discharge good; the ligatures all come away. At eight in the evening his heats came on again, and a partial sweat: the heat was 96 of Farhenheit's thermometer, and his pulse at 100, which was much the same all along; his urine was limpid, and he passed it easy and in good quantity. He had a pint more of Seltzer at ten, and he drank half a pint at five. He slept but an hour and a half, and had returns of his heats, and sweated.

30th, In the morning somewhat cooler than at night, but his pulse at 96: he had now an ounce and an half of bark, with two drachms of tartar solubil. in eight papers, one to be taken in a cup of Port every three hours,

and a pint of Seltzer water. He continued much the ſame way, but had a better appetite, and his urine pale: at ten, he was not ſo hot as laſt night, nor inclined to ſweat. He had two ſtools this day; at night, his heats much diminiſhed, and ſweat but little. No alteration in his medicine.

October the 1ſt, Better in every reſpect, his pulſe ſtill quick; and from this time his heats, ſweats, and quickneſs of pulſe gradually left him; but ſtill he continued the bark, two drachms every two hours, and light nouriſhment, until the 15th or 16th, then left off his medicines, being able to get up and walk about. He recovered, and ſoon after left the hoſpital in perfect health.

NOTE

NOTE XIV.

SECT. VI. p. 87. (*)

THE following caſe ſhews the variety of ſymptoms that may ariſe from the abſorption of matter, in apparently ſlight wounds.

December the 1ſt, 1775.

Walter Berry, aged twenty-ſix, a ſtrong, robuſt, young man, received a kick from a horſe over the tibia, where we generally amputate: the wound it made was ſmall, not bigger than a ſixpenc, but the bone was bare; the violence was great, for he fell with the ſtroke. He walked to the hoſpital next day, and as it was conſidered as a ſuperficial wound, not being attended with any alarming degree of inflammation, he was dreſſed without any particular attention. For the firſt three or four days, nothing unuſual occurred; he had a doſe of Glauber ſalts, and walked every morning to the hoſpital; about the fifth day he was unable to come, became feveriſh, ſent for dreſſings,

dreſſings, and remained at home for near a week, and then was carried to the hoſpital.

On examining, the leg ſeemed not much inflamed; the bone was viſibly bare, and the integuments detached from it; there was ſome matter collected on the inſide, which was opened, and another opening made on the outſide of the tibia; he was purged, and a flannel-tailed bandage put on. During the week he was abſent, his fever was that which is attendant on matter concealed. The bark was given, and he ſeemed to go on very well for ten days; but then the ſores looked ill, and he was ſeized with irregular ſhiverings, attended with a quick low pulſe; the leg was not at all inflamed or enlarged, but I found the matter had made its way down, along the external ſide of the tibia, under the ſoleus. I immediately made a large inciſion downwards in that direction, ſo as to lay open the whole tragit; I found the tibia partly bare and rough. His bark was encreaſed, two drachms every two hours, along with the decoction, and he had a drink made of half an ounce of bark boiled in three quarts of water, acidulated with ſpirit. vitriol. ten.

On

On the 10th, the fever and rigors abated, and in a few days he ſeemed pretty well; but a hæmorrhage broke out from a very ſmall artery, which gave ſome trouble: he had a low quick pulſe, conſtantly attended with a dry parched tongue. He now became hard of hearing, and in ſome days after could not ſee, and raved at night, but was ſenſible when ſpoken to; the ſore gleeted immenſely, though he was, for the moſt part, dreſſed twice a day: I applied thin ſlices of ſpunge for the whole dreſſing, which anſwered very well, imbibing the matter; he grew better, the ſore looked much better, and the ſhiverings left him, but his pulſe continued much the ſame. Several pieces of the tibia came away, and the bone ſeemed very weak; he had a ſevere cough, and ſuch a difficulty of breathing, that bliſters were put to his leg and thigh, and afterwards to his back. As the wound had no great diſcharge, the ſpunges ſtuck ſo cloſe, that they gave extreme pain at dreſſing, and were left off.

He was now much exhauſted, and the tibia ſeparated in two, at the place the kick was received; he for ſome weeks paſt raved inceſſantly; the thigh was full and œdematous,

tous, and ſeemed as if it was a purulent one, without any particular collection.

January the 9th, As he ſeemed paſt hopes of recovery, I gave him no more bark or medicine, as he loathed them, he having taken a pound and a half of bark in the courſe of his illneſs, and ſpirit of vitriol tenuis in all his drink, and eat China oranges every day: Port whey, broth, and a bit of chop, was what he moſtly uſed. The 14th, a purging came on him: a ſpoonful of a mixture with confect. cardiac. and bol. gall. was given after every ſtool.

The 16th, he did not rave ſo much, nor was the diſcharge from the leg ſo great. The ends of the tibia were at a diſtance, and quite carious, and appeared as a bone macerated in ſpirit of ſea-ſalt. He had mortified eſchars on his rump, and on his back, where he was bliſtered: he ſlept between whiles, but was uneaſy. All along, he was well ſupported with broth, meat, wine, and wine-whey; a paregoric when neceſſary. He ſhivered frequently, and had a conſtant purging, and died ſeemingly exhauſted, January the 20th. Although this man was ſtrong, able, and ſeeming healthy, I obſerved he had a ſcor-

a ſcorbutic eruption round his ancles, which, he ſaid, he was ſubject to for ſome years.

In this caſe, we ſee the effects of concuſſion in long bones; for certainly, to it are we to impute the formation of matter, and ſloughy diſpoſition round the bone, that ſucceeded in ten or twelve days after the accident; how ſimilar its progreſs is to wounds in the head, allowance being made for the importance of the parts intereſted; how obſtinate are fevers proceeding from abſorption of matter, what variety of ſymptoms ſucceed, and how hard it is to effect a cure, we may experience from this patient's caſe. Amputation could not, with propriety, be propoſed, nor would it, in all probability, have relieved him in the leaſt: and every care and attention was given, by large inciſions to give early exit to the matter, from the time he was received into the hoſpital.

NOTE

NOTE XV.

SECT. VI. p. 88. (*)

THIS is ſtrongly evinced in a caſe related by Dr. Fothergill, in the fifth volume of the London Medical Obſervations, of which I ſhall give the following brief abſtract.

A man, aged forty, was bit by a cat, on the 14th of February 1774; the day after, he took the Ormſkirk medicine, ſtrictly conforming to the directions. He remained well until about the middle of April, when he was ſeized with a pain in his knee, which he attributed to the rheumatiſm.

The 16th of June, he was ſeized with the ſymptoms of the hydrophobia. The doctor had him bled ſix ounces, gave him a bolus of a ſcruple of native cinnabar and ten grains of muſk, every four hours, ordered his bowels to be occaſionally kept free by clyſters, to ſome of which a drachm of Dovar's powders were added; had him carried to the warm bath, after which two drachms of ſtrong mercurial ointment were rubbed on his legs and thighs.

Next

Next day he gained no ground. He was ordered to be bled ſtanding, to be carried again to the warm bath, the clyſter with Dover's powders to be repeated, and half an ounce of mercurial ointment to be rubbed on his legs and thighs, one ſcruple of extract of thebaic. in twenty pills, three to be given when he came out of the bath, and two every two hours after. This treatment procured no remiſſion of his ſymptoms; he never ſlept from the beginning, loſt ground every hour, and died the third or fourth night.

There is one caſe in the ſame volume, tranſmitted by Dr. Raymond of Marſeilles, which terminated fatally, notwithſtanding the adminiſtration of a variety of remedies, accounted ſpecifics. The doctor draws the following conſequences; that neither Cobb's powders, turbith. mineral. nor the anagallis flore purpureo, are ſpecifics in the hydrophobia; and he ſeems to think the good effects of mercurial frictions very precarious.

END OF VOL. I.

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